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Supplemental
Environmental Impact Report

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101 Mission Office Building

Final

EE 79.236

November 26, 1984

Publication Date: July 23, 1984

Public Comment Period: July 23, 1984 to August 23, 1984

Public Hearing Date: August 23, 1984

Certification Date: December 6, 1984

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF CITY PLANNING

SUPPLEMENTAL
ENVIRONMENTAL IMPACT REPORT

101 MISSION OFFICE BUILDING

FINAL
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- Changes in the text of the Draft EIR are indicated by solid dots at the beginning of each revised section, paragraph, figure or table.



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I. INTRODUCTION: PURPOSE OF THIS SUPPLEMENTAL EIR

A. HISTORICAL OVERVIEW

This supplement to the environmental impact report (EIR) for the 101 Mission Street Office Building (EE 79.236) has been prepared under a Peremptory Writ of Administrative Mandamus entered by San Francisco Superior Court Judge Daniel Weinstein in San Franciscans for Reasonable Growth v. City and County of San Francisco, Lincoln/Mission/Spear Associates, Real Party in Interest, San Francisco Superior Court Number 791326. (Appendix A, page A-1 contains the Superior Court's Peremptory Writ of Administrative Mandamus.)

On August 27, 1981, the San Francisco City Planning Commission (CPC) certified the Final EIR for the project (Resolution 9122) and approved the project (Resolution 9123). On January 28, 1982 the CPC filed a Notice of Determination, commencing a 30-day period within which challenges to an EIR of final project approval must be made. On March 1, 1982, San Franciscans for Reasonable Growth (SFRG) filed suit under the California Environmental Quality Act, challenging the Planning Commission's actions. The 101 Mission Street project was one of four projects SFRG petitioned to set aside CPC resolutions for EIR certification and project approval./1/

The San Francisco Department of Public Works issued building and site permits to the project sponsor and work began on the site prior to any formal decision by the trial court. SFRG appealed the issuance of permits for all four projects to the Board of Permit Appeals. In late May 1982, the appeal was denied by the Board, which based its findings on the CPC's previous resolution actions. Shortly thereafter, SFRG amended its petition to void the Notice of Determination and the building permits in addition to challenging the EIR certification and project approval for all four projects.

- On July 22, 1982, the trial court denied all of the petitions, issuing a memorandum of decision that found that: (1) neither the Commission nor the Board had abused its discretion in certifying the EIRs and approving the projects; (2) the findings of the Board and the Commission were supported by substantial evidence; (3) "the standards employed and the projects analyzed by the

I. Introduction: Purpose of this Supplemental EIR

Planning Commission in evaluating the cumulative impacts resulting 'from the incremental impact of the project[s] when added to other closely related past, present and reasonabl[y] foreseeable future projects' (14 Cal. Admin. Code, §15023.5(b)) were reasonable and rational and did not constitute an abuse of discretion" (emphasis added); (4) the mitigation measures imposed on each project were legally sufficient and supported by substantial evidence; and (5) the pendency of the Downtown EIR did not preclude the approval of these or any other projects.

I. Introduction: Purpose of this Supplemental EIR

SFRG appealed (to the California Court of Appeal, First Appellate District) the trial court's judgment denying its requests that (1) the CPC be required to set aside its resolutions that certified the EIRs and (2) be required to void the permits permitting construction of the projects. (151 Cal. App. 3d at p.67.) The appellate court found the EIRs to be inadequate and incomplete because the CPC "omit[ed] from its calculations and analysis of cumulative impacts other closely related projects that were [con]currently under environmental review" and therefore "failed to interpret the requirements of a cumulative impact analysis so as to afford the fullest possible protection of the environment." (151 Cal. App. 3d at p.81.)

The appellate court found that by omitting in the cumulative impact analysis other closely related projects that were currently under environmental review, the EIRs failed to provide the responsible agency or the public with the type of information called for under CEQA and the State CEQA Guidelines which require study of the "... incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects."/2/ The court concluded that the trial court erred in its findings regarding the adequacy of cumulative impact analysis in the EIRs, reversed the ● judgements and remanded the four matters to the trial court with direction that it requir[e] the [Planning] Commission to redraft the EIRs for all four projects in compliance with the requirements of CEQA as expressed [within the appellate court's opinion] (151 Cal. App.). The Court of Appeal also noted, correctly, that construction was underway and likely nearing completion, and stated: "Obviously, it would create economic havoc to interrupt such activity at this point, and it is not our purpose to do so." (151 Cal. App. 3d at p.82 note 19) The court further emphasize[d] that rewriting of the EIRs would be meaningful even though construction were allowed to proceed.

On May 9, 1984, the Superior Court of California issued a Peremptory Writ of Administrative Mandamus which vacated the certificate of completion of the Final EIR (FEIR) and required preparation and publication of a Supplemental EIR. The Court directed the scope of the Supplemental EIR to "supplement the

I. Introduction: Purpose of this Supplemental EIR

analysis in the FEIR of the cumulative impacts of the subject project together with other closely related past, present and reasonably foreseeable probable future projects". The Court also required that no final Certificate of Occupancy be issued by the City until further order of the Court, but denied the repeated requests of petitioner that issuance of temporary certificates of occupancy for 101 Mission Street and the other projects be enjoined.

NOTES - Introduction

- /1/ The other three projects listed in the lawsuit and subsequent judgements are the Montgomery-Washington Building (81.104E, FEIR certified January 28, 1982); the One Sansome Building (EE78.334, FEIR certified August 6, 1981); and the Spear and Main Street Office Building (EE80.349, FEIR certified February 11, 1982).
- /2/ California Administrative Code, Title 14, CEQA: The Guidelines, Section 15023.5(b).

B. SCOPE OF SUPPLEMENTAL EIR

- In response to the Writ issued by the Superior Court (Appendix A), this report supplements or modifies the cumulative impact analysis in the EIR published May 22, 1981 and certified August 27, 1981 (hereinafter called FEIR). The current analysis of the cumulative effects of the proposed project is discussed in the transportation, air quality, energy and housing sections. Under each topic discussed, those portions of the FEIR that have been replaced are identified. The remainder of the material constitutes additions to the appropriate sections or subsections of the FEIR and is not specifically called out as additions in order to avoid interrupting the sense of the material.

Cumulative analysis in the project's Final EIR was based upon approximately eight million square feet of office space approved or under construction as of October 1980. Transportation impacts were assessed using Guidelines for Environmental Evaluation -Transportation Impacts, prepared by the San Francisco Department of City Planning, July 1980 (revised October 1980). Muni transit impacts were based on estimates of patronage and load factors most likely to occur in 1983.

Cumulative analysis in this Supplemental EIR is based upon approximately 19 million square feet of net new downtown office space. This includes projects as of March 10, 1984 that are under formal review by the Department of City Planning, approved or under construction. The process used to develop the cumulative list and the list of projects appears in Appendix B, pages A-6 through A-15. This list contains the most recent cumulative development projections prepared by the Department. In addition to updating the 101 Mission EIR to reflect the revised cumulative development projections, this Supplemental EIR also presents a revised cumulative analysis of the transportation, air quality, housing and energy impacts of the project using the cumulative analysis methodology developed for the Downtown Plan EIR (DEIR published March 16, 1984). Subjects not covered in this Supplemental EIR are not affected by changes in cumulative development projections for downtown San Francisco or cumulative analysis methodology.

I. Introduction: Purpose of this Supplemental EIR

The Downtown Plan EIR's cumulative analysis methodology differs from recently-certified EIRs for downtown office projects in that the cumulative analyses in these EIRs were based on the projected number of square feet of cumulative development, whereas in the Downtown Plan EIR it is based on projected employment. The two methodologies are compared in each impact section in this Supplemental EIR.

- While both methodologies have been used, the purpose of this Supplemental EIR is to comply with the mandate of the Superior Court Writ to use a revised and expanded list-based approach to cumulative impact analysis. The Downtown Plan EIR methodology is included to demonstrate that an economic forecast methodology provides similar results and thus confirms factual conclusions reached in the EIR. Where the results of list-based approach or the Downtown Plan EIR have varied, an explanation of the reason for this variation is provided.

II. SUMMARY

A. PROJECT DESCRIPTION

The project site is located at the southwest corner of the Mission/Spear Street intersection on Lot 1 of San Francisco Assessor's Block 3717, within a C-3-0 (Downtown Office) district. The site has an area of 12,605 square feet and a permitted floor area ratio (FAR) of 14:1. Since certification of the Final EIR (FEIR) on 101 Mission Street on August 27, 1981, the project has

- been built as approved per CPC Resolutions 9123 adopted August 27, 1981, and 9269 adopted January 7, 1982, and is partially occupied. The project is now referred to as 100 Spear Street.

The project described in the FEIR would contain approximately 219,350 gross square feet (gsf) of office and mechanical space and no retail space. The completed project actually contains approximately 197,000 gsf of office space,

- 3,200 gsf of ground-floor retail space and 14,100 gsf of mechanical/service space. In another point of departure from the original design, the completed structure does not contain a mezzanine level or basement-level parking.

Other than these changes, the completed project has been constructed according to the design described in the FEIR. It contains 20 stories above the ground floor and rises 273 feet above grade. The building's main pedestrian entry

- fronts an arcade with Mission and Spear Streets access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the inter-block walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street. A truck loading area leading to a freight elevator, is located off Spear Street. The FAR for the finished structure is 17:1,
- which includes floor area obtained from development bonuses.

- Deducting previously existing on-site office uses (9,900 gsf), the project as constructed would contribute approximately 187,100 net new gross square feet of office space to the 19 million gsf of net new downtown office space

- considered in the cumulative analysis. Thus, the project would comprise about 1% of the total amount of net new office space projected to be added in downtown San Francisco based on the list of projects.

B. ENVIRONMENTAL IMPACTS

Introduction to Cumulative Impact Analysis

The cumulative impact analyses in this EIR use two different approaches for estimating future transportation, air quality, energy and housing impacts:

- the Downtown Plan forecasts to the year 2000, and
- the March 10, 1984 list of projects in the greater downtown area.

There are several differences between the two approaches. The basic difference is that the Downtown Plan approach accounts for future changes to a range of land uses as well as changes over time in worker characteristics and behavior, while the list-based approach uses known projects of certain types to represent future activity and assumes unchanging characteristics and behavior. As a result of this basic difference in approach, the Downtown Plan forecasts incorporate changes over time in employment densities, residence patterns, and travel patterns, whereas the list-based approach applies current conditions to all future activity. These two approaches are alternative means of assessing the future cumulative context for downtown development.

According to the Downtown Plan forecasts, there would be a net addition of 21.7 million sq. ft. of space in all land uses in the C-3 District between 1984 and 2000. The project (200,200 net additional sq. ft. of office and retail space) would represent 0.9 percent of this amount.

- The March 10, 1984 list of cumulative office development in the downtown area (the C-3 District and adjacent areas) includes a net addition of 19.9 million sq. ft. of office and retail space. The project would represent about 1.0 percent of the space in the projects on the list. (See Appendix B, pp. A-6 to
- A-13, for a complete listing of projects on the Cumulative List and an explanation of the list.)
 - For a more detailed discussion, and a chart comparing the two approaches, see Section V.A Introduction to Cumulative Impact Analysis, pp. 38-40.

Transportation

Cumulative transportation impacts have been calculated by a cumulative-development list-based method used in most past San Francisco EIRs and by the new predicted employment-based method first presented in the Downtown Plan EIR, published March 16, 1984. The employment-based model takes into account area-wide housing availability, planned transit system improvements, the effect of congestion on mode selection decisions, and other factors which are expected to change with time, thus giving a more realistic and sophisticated prediction than the list-based method, which assumes no changes in modal split or residence patterns of San Francisco workers between now and the year 2000. The two methods are not directly comparable because the employment-based method analyzes C-3 (all uses) and non-C-3 District trips, while the cumulative-development list covers travel from only office and retail in the greater Downtown area.

Net new trip generation from the project would be about 3,970 person-trip-ends (pte) per day. About 620 new outbound trips would occur during the p.m. peak period, 390 of these during the peak hour. On the basis of modal splits predicted for the year 2000 by the Downtown Plan EIR, the main peak-period trip contributions would be: to Muni - 160 trips, BART - 120 trips, walk only - 60 trips, drive alone - 90 trips and car/vanpool - 95 trips.

The transit demand from the project would represent about 0.2% of the total transit demand in the year 2000. Planned capacity increases of transit carriers in conjunction with transit ridership increases from cumulative development under the Downtown Plan to the year 2000, would be expected to result in the following changes in transit Levels of Service during the peak period: Muni Northeast Corridor - D to C, BART Transbay - F to E, AC Transit - C to D, Golden Gate Ferry - B to A, Tiburon Ferry - B to C, and CalTrain - B to C.

The proposed project would generate about 170 new pedestrian trips on the surrounding sidewalks during the noon 15-minute peak period and about 120 new pedestrian trips to those sidewalks during the p.m. 15-minute peak period.

Nearby sidewalk operations, currently in the open to impeded range during the noon peak period and p.m. peak period would degrade slightly with the addition of cumulative development. Nearby crosswalks currently operating in the open to unimpeded range would degrade to the unimpeded and impeded range during the p.m. peak period.

About 0.1% of year 2000 Bay Bridge peak period demand would be due to the project. About 0.1% of peak-period demand on the Golden Gate Bridge, U.S. 101 (south of Harney Way), and I-280 (between Alemany Blvd. and San Jose Ave.) would be due to the project.

Cumulative development by the year 2000 would be expected to decrease the peak-hour intersection Levels of Service at Battery and Clay Sts. from C to D, and those at Mission and Beale Sts from E to F, and to aggravate the jammed conditions at First and Harrison Sts.

The C-3 District would generate demand for approximately 58,000 equivalent daily parking spaces in the year 2000 under the Downtown Plan, an increase of 28% from 1984. Short-term demand would continue to represent about 25% of the total demand. The project parking demand would represent about 0.3% of the total demand from the C-3 District. The parking supply has been assumed to be about 51,000 spaces. There would be a parking deficit of about 6,000 spaces in the year 2000 if vehicular demand occurs as projected.

Air Quality

Traffic generated by cumulative development would increase the total regional burden of emissions in the Bay Area. This increase would not produce increases in ozone concentrations in the Bay Area, although it could produce small increases in ozone at locations further downwind. The project would produce about 0.6% of the air pollution generated by cumulative list projects.

Cumulative development generated traffic could also increase carbon monoxide (CO) emissions on local streets. However, because of ongoing state and federal emissions control regulations, these increases would not cause CO concentrations in future years to be higher than they are currently. Rather, CO concentrations would generally continue to decrease as older, more polluting vehicles are replaced by newer cars. No violations of standards are predicted to occur in future years. The project would contribute less than 1% to the total CO at the intersections studied.

Energy

Yearly estimated electrical consumption for the projected 19 million square feet of additional downtown office space at the time of buildout (mid-1990s) of the projects on the March 10, 1984 cumulative list would be approximately 340 million kilowatthours (kWh) of power per year. PG&E projects an increase in annual energy demand over the next decade of about 200 million kWh. The lower PG&E estimate is largely due to a lower development estimate.

The Downtown Plan EIR predicts an increase of about 210 million kWh of annual electrical consumption per year between 1984 and 1990, and of about 330-350 million kWh of annual energy consumption for the years between 1990-2000. The PG&E projections and Downtown Plan EIR do not predict energy consumption for exactly the same time period and thus are not comparable.

Residence Patterns and Housing

According to the Downtown Plan forecast, 189,000 C-3 District workers would live in San Francisco in 2000. The persons employed in the 101 Mission project would be a part of this total. About 330 people working in this building would live in San Francisco, about 0.2 percent of the total for the C-3 District.

According to the list-based approach, about 230,000 workers in the greater downtown would live in San Francisco after build-out of the projects on the list. The 101 Mission project would account for 0.1 percent of the total.

Employment growth accommodated by the project and the many other projects considered in either the Downtown Plan forecast or the list-based analysis has implications for the San Francisco housing market. These can be summarized as follows:

- There would be more people with preferences and increased resources to pay for San Francisco housing, adding to an already strong demand.
- The housing supply would be expanded in San Francisco. However, the private market is expected to continue to have difficulty producing affordable housing, for many housing market reasons.
- There would be increased competition for the available housing units. As a result, there would be higher prices/rents for San Francisco housing with continued employment growth than without it.
- Generally, households with fewer financial resources to pay for housing would make the most sacrifices in adapting to more competitive market conditions. San Francisco currently has and will continue to attract a large number of persons who would be faced with greater difficulty in securing housing.

Cumulative employment growth in downtown San Francisco would have less impact in the context of the rest of the region's housing market. Considering trends in labor force participation, workers per household, housing production and employment growth throughout the region, future workers in downtown San Francisco would not require much larger shares of the region's housing stock in the future than they do now. In the future, the

relationship between downtown workers and other workers competing for housing in the region would be relatively similar to current conditions. As part of total regional employment growth to the year 2000, increases in San Francisco employment can be viewed as contributing to regional housing demand and to a competitive regional housing market with relatively high housing prices and rents.

C. MITIGATION MEASURES

Mitigation measures described in the FEIR as "Measures Proposed as Part of the Project" were part of the project plans and were incorporated as conditions of project approval. The expanded cumulative impact analyses contained in this Supplemental EIR do not disclose new impacts not covered by mitigation measures previously imposed on the project and uniformly imposed on later projects approved by the City Planning Commission. The mitigation measures are generally imposed on a per-square-foot basis because an individual office building project contributes to the cumulative impacts in proportion to its contribution to additional employment in downtown, which is related to the space provided in the new building. No individual building contributes disproportionately--geometrically--to the overall cumulative. Therefore, insofar as mitigation measures have been imposed on a per-square-foot basis where possible (e.g., Transit Development Impact Fee, Office-Housing Production Program), the project will contribute its appropriate share to the overall measures, which combine to reduce cumulative effects of increases in office space downtown. Where mitigation measures are not appropriately imposed by square footage, such as provision of a transportation broker to encourage transportation systems management, all projects similarly situated have had such a measure uniformly required, as has the project covered by this Supplemental EIR. The specific mitigation measures imposed on the project are shown in Appendix F, page A-32.

1. Transportation

A few conditions that mitigate the project's contribution to cumulative transportation impacts were included in the project approval action but not discussed in the FEIR. These measures were reproduced in the text of this Supplement to the FEIR.

If the City were to adopt and implement the transportation improvements described in the Downtown Plan, or were to act to implement transportation mitigation measures described in Section V.E. Mitigation, pages V.E.4-28 of the Downtown Plan EIR, cumulative transportation impacts of downtown growth would be reduced. These measures are system-wide measures that must be imple-

mented by public agencies and cannot be implemented by individual project sponsors.

The following measures are not included as part of the project:

- o Requiring a portion of the office space in the project to remain vacant would contribute to mitigation of cumulative transportation impacts.
- o Contribution of fees over and above the present \$5.00 per square foot could mitigate some of the project's contribution to cumulative transportation effects. However, the City Planning Commission has not been delegated the authority to require such a mitigation measure.

2. Air Quality

Measures that would reduce transportation impacts by reducing the number of vehicle miles traveled would reduce cumulative air quality effects.

3. Housing

● A requirement to provide housing in San Francisco was included in project approval conditions, thus reducing or eliminating project-specific contributions to cumulative housing impacts in San Francisco.

4. Energy

The project is in compliance with State Title 24 Energy standards. In addition, project approval included a requirement to review energy consumption one year after building occupancy and implement reasonable energy conservation measures recommended as a result of that review.

III. PROJECT DESCRIPTION

The project site is located at the southwest corner of the Mission/Spear Street intersection on Assessor's Block 3717, Lot 1. The 12,605-square-foot project site is within a C-3-0 (Downtown Office) district and has a permitted floor area ratio (FAR) of 14:1. Since certification of the Final EIR on 101 Mission Street on August 27, 1981, the project has been built as approved per CPC Resolutions 9123, adopted August 27, 1981 and 9267, adopted January 7, 1982, and is partially occupied.

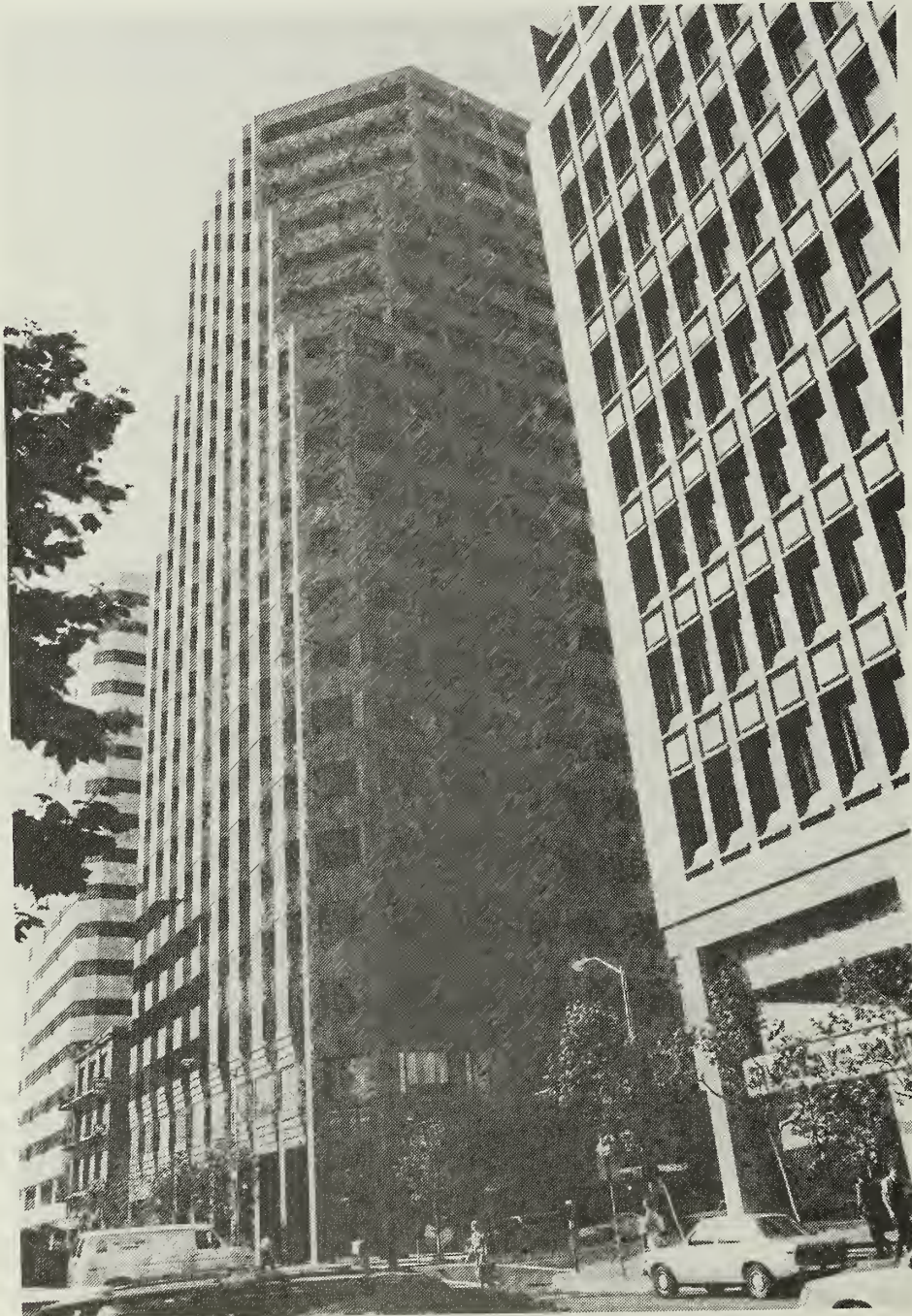
- The project described in the FEIR would have contained 219,350 gsf of office and mechanical space and no retail space. The FEIR also described a mezzanine level and basement-level parking. The project as built contains approximately 197,000 gsf of office space, 3,200 gsf of retail space and 14,100 gsf of mechanical/service space for a total of 214,300 gsf. Other than the loading area described below, there is no parking.
- As described in the FEIR, the building contains 20 stories above the ground floor and rises 273 feet above grade (see Figure 1). Although total floor area is similar to that described in the FEIR, the design of the completed project is different, particularly on the ground-floor level.¹ The building's main pedestrian entry fronts an arcade with Mission and Spear Street access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the interblock walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street.
- An off-street truck loading area, leading to a freight elevator, is located off Spear Street. The loading area provides parking space for three delivery vans, two service vehicles and bicycles.

The FAR for the project as described in the FEIR is 17.4:1; the FAR for the project as constructed is 17.0:1. The additional floor area is a result of development bonuses granted for (1) provision of multiple pedestrian building entrances, (2) reduced restriction to pedestrian flow by providing sidewalk area within the property line of the project site, and (3) provision of a roof-top observation deck, open to the public./2/ The structure was constructed using precast concrete panels. Exterior treatments include the use of polished, rose-colored granite and bronze-colored, tinted windows. The lobby features granite walls and floors and displays a permanent maritime exhibit. A 45,000-pound bronze sculpture of a ship's propeller is displayed outside the structure's main entrance.

101 MISSION OFFICE BUILDING

FIGURE 1

SOURCE: EIP CORPORATION, JULY 1984



Construction, excluding tenant improvements, was estimated in the FEIR at \$13,161,000 (1981 dollars). Construction began in late 1981 and was completed in late 1983 per the schedule in the FEIR. Architects for the project are Hardwood K. Smith and Partners. The project's street address has changed and is now referred to as 100 Spear Street.

The project as built would contribute approximately 187,100 gross square feet (gsf) of net new office space to the 19 million gsf of net new downtown office space considered in the cumulative analysis. Thus, the project would comprise about 1% of the total amount of new office space projected to be added in downtown San Francisco based on the list of projects.

NOTES - Project Description

/1/ The project as finally built involves the following differences from the proposed project described in the FEIR:

- o The completed project contains approximately 197,000 gsf of office space and 14,000 gsf of mechanical/service space, rather than the total 219,350 gsf of office and mechanical space proposed in the FEIR (actual square footages assigned to either office or mechanical space are unknown at this time).
- o The building includes 3,200 gsf of ground floor retail, compared to none for the proposed project;
- o The completed structure does not contain a mezzanine level or basement level parking;
- o Actual cost of construction was approximately \$17,800,000 (1983 dollars), whereas the estimate in the FEIR was \$13,161,000 (1981 dollars).

/2/ Pursuant to City Planning Code Section 126. The City adopted interim controls on development bonuses on July 1, 1980 (City Ordinance 240-80) restricting the approval of these bonuses to hotel and residential developments, and only by Conditional Use authorization. Seventeen projects, already in the process of environmental or permit review at the time the controls went into effect, were exempted by previous action by the Board. The 101 Mission project was included in that exemption.

IV. ENVIRONMENTAL SETTING

A. LAND USE

Downtown San Francisco and the Bay Area Region

In 1984, it was estimated that the C-3 District contained about 103.5 million gsf of building space over all land uses. About 60 percent of this space was office space. The next largest share was hotel space at 10 percent of the total, followed by retail at eight percent./1/

The Department of City Planning has compiled data on major office building construction citywide since 1960. (See Table B-3 in Appendix B). According to the City's data, in 1983, there were 64.3 million gsf of space in major office buildings throughout the City. Most of this office space is in the C-3 District. Between 1960 and 1979, office space was built at an average rate of 1.4 million gsf per year. Recently, office construction activity has risen to higher levels. The data compiled by the Department of City Planning show 12.2 million gsf built from 1980 through 1983, for an average rate of about 3.0 million gsf per year.

Downtown San Francisco is likely to continue to be the major office center in the Bay Area region. Forecasts of development between 1984 and 2000 prepared for the Downtown Plan EIR estimate that an additional 21.7 million gsf of space in all uses would be built and occupied in the C-3 District. Most of this additional space (16.8 million gsf, almost 80 percent of the total) would be office space. According to the Downtown Plan forecasts, the rate of new office construction in the C-3 District would average about 1.1 million gsf per year between 1984 and 2000./2/

These forecasts of development for the Downtown Plan fall near the lower end of the range identified for the five Alternatives to the proposed Plan. The total addition of space built and occupied between 1984 and 2000 would range from 21.3 million gsf (Alternative 5) to 29.9 million gsf (Alternative 2). In all Alternatives, office space would represent the largest component of development. The smallest increase in office space would occur under Alternative 4 (15.4 million gsf), while the largest increase would occur

under Alternative 1 (24.4 million gsf).^{/3/} Under Alternative 1, the rate of new office construction forecast between 1984 and 2000 would continue at the relatively high level of 1.7 million gsf per year.^{/4/}

The Department of City Planning maintains a list of cumulative office development in downtown San Francisco. (See Table B-2 and Appendix B text for a more detailed description of the contents of the list.) The list incorporates all office and major retail projects that are under formal review, approved but not yet under construction, and under construction in the greater downtown area. This area covers the C-3 District in addition to adjacent areas, such as the Northern Waterfront, Civic Center, and the area south of Folsom Street. As of the March 10, 1984 list, about 9.2 million gsf were under formal review, about 5.0 million gsf were approved, and about 5.7 million gsf were under construction. In total, the list includes a net addition of about 19.9 million gsf: 19.0 million gsf of office space and 0.9 million gsf of retail space. The information on the list for the net addition of space accounts for about 2.7 million gsf of existing office and retail space that would be demolished for construction of these projects. About 13.2 million gsf of the 19.9 million gsf total are in projects located in the C-3 District.

In terms of land use, the most important factor in the regional consideration of cumulative development in downtown San Francisco is region-wide office development. Other land uses throughout the region, such as retail and hotel, are less affected by development in San Francisco. The office space market is more regional in nature.

Space in office buildings in the other eight counties of the nine-county Bay Area is estimated to be 27 million sq. ft. as of the end of 1979.^{/5/} While San Francisco has the majority of existing office space in the region, the rapid growth of office functions in other Bay Area counties has resulted in less than half of the new space in office buildings in the region being built in San Francisco. Forty-five percent of the dollar value of building permits issued for office construction in the region between 1972 and 1979 was for

San Francisco development./6/ Because the average cost per sq. ft. for office construction is higher in San Francisco due to the predominance of high-rise office construction, the City's recent share, in terms of square footage of regional office space construction, can be inferred to be less than 45 percent.

San Francisco's role as a headquarters city and major business center for the West Coast stimulates office growth elsewhere in the Bay Area. As San Francisco firms expand, they look to suburban office markets to accommodate new functions and/or to attract a certain segment of the labor force. Moreover, as the costs of space in San Francisco have increased, due to high levels of demand, cost-sensitive firms have chosen locations in other cities or in expanding suburban locations.

NOTES - Land Use

/1/ Downtown Plan EIR, p. IV.B.17. The estimates of C-3 District building space for 1984 are based on 1981/82 data for the C-3 District collected for the Downtown Plan analysis. The Downtown EIR Land Use Inventory was conducted to provide a base case from which the land use impacts of the Downtown Plan and Alternatives could be analyzed. The Inventory data on C-3 District space by use and subarea are presented in Table IV.B.1, on p. IV.B.2 of the Downtown Plan EIR. The estimates of land use change between 1981 and 1984 primarily reflect the projects under construction in the C-3 District as of mid-1982 and are presented on pp. IV.B.14 to IV.B.16 of the Downtown Plan EIR. The text discusses the real estate market context for these short-term projections of land use change. It indicates that the amount of office space under construction exceeded the projected demand estimated according to longer-term employment growth forecasts prepared for the Downtown Plan analysis. Therefore, some of the space assumed to be built by 1984 (and included in the 1984 totals identified herein) would be absorbed later in the 1980's. These sections of the Downtown Plan EIR are hereby incorporated by reference pursuant to State CEQA Guidelines Section 15150. The C-3 District Land Use Inventory is available for public review at the Department of City Planning.

/2/ Ibid., pp. IV.B.34-35. This estimate accounts for new construction, as well as demolition and conversion of existing space.

The forecasts presented in this paragraph and the following paragraph for the Alternatives represent space that would be built and absorbed by 2000. Space that will be under construction and not yet occupied in 2000

is not included in the forecasts for 2000 for the Downtown Plan and Alternatives. Therefore, the annual average data from the forecasts are not directly comparable to annual averages for recent short-term (1980-83) office construction, as shown on the list compiled by the Department of City Planning. The short-term data include some projects that are not yet fully occupied.

/3/ Ibid., p. VII.B.4 and accompanying text.

/4/ Ibid., p. VII.B.2 and accompanying text.

/5/ Association of Bay Area Governments (ABAG), "Bay Area Office Growth", Berkeley, California, April, 1981, pp.31-62. This number may be an underestimate because the sources for the report apparently do not always include small office buildings.

/6/ Ibid., p. 18.

Site Vicinity

In addition to construction of the project, there have been several changes in the land uses surrounding the site since certification of the Final EIR. Generally speaking, buildings that were in the planning stage or under review at publication of the FEIR are now in another stage of review, are approved or under construction. Moreover, new projects have been added to the latest cumulative list dated March 10, 1984. These changes are noted here as updated land use information.

Assessor's Block 3717, the project site block, has undergone considerable change since 1981. At the southeast corner of the intersection of Mission and Main, construction began in early 1984 on 123 Mission, a 27-story office tower. This project involves the demolition of three small-scale buildings. Mid-block to the south, and adjacent to 123 Mission, 135 Main is also under construction. It will eventually be 22 stories tall. Two, two-story buildings were demolished for this project. The 123 Mission project is indicated as "approved but not yet under construction" according to the March 10, 1984 cumulative list; 135 Main is listed as "under construction." Adjacent to 135 Main is 160 Spear, which fronts on Main Street but continues through the block to Spear Street. It is in the final construction phase and is listed as "under construction."

Adjacent to the 160 Spear building, on the northeast corner of Main and Howard, is the Howard and Main office building, a 13-story structure linked by an arcade to the Howard and Spear office building, an 8-story building. Both buildings were occupied prior to May 1981. The 150 Spear building, on the west side of Spear Street mid-block between Howard and Mission, is an 18-story office structure. A permanent Permit of Occupancy was granted in mid-1983./1/ All three of these buildings have been completed and occupied. They are included as baseline data and do not appear on the cumulative list.

Between 150 Spear and 101 Mission is 124 Spear, a four-story brick building. Designed in 1881 by Walter H. Ratcliff, it is rated "C" by Heritage./2/

At the time the FEIR was written, the area around 101 Mission was characterized as in transition from warehousing and light industrial uses to office buildings and retail commercial use. On the project block, this transition appears almost complete.

Construction trends within a few blocks of the site also reflect this transition. From Market Street south to Folsom Street, a number of projects are in various phases. On Assessor's Block 3709 (bounded by Market, First, Mission, and Fremont Streets), Central Plaza, an office/retail project of about 350,000 gsf, has been approved and is under construction. Five Fremont Center, another office complex in the same block, has recently been completed; it contains about 790,000 gsf of office space. The Federal Reserve Bank, which occupies most of the block bounded by Market, Main, Spear and Mission Streets, is also recently completed. A temporary Permit of Occupancy has been issued for the Federal Reserve Bank./3/ Pacific Gateway (201 Mission), on the southwest corner of Main and Mission Streets, another new development in the area, was completed in 1983, and has received a temporary Permit of Occupancy./4/

East of 101 Mission and the Rincon Annex Post Office are two projects under construction: 121 Steuart and 141 Steuart. Each project is under 100,000 gsf. Southeast of 101 Mission, 201 Spear, an 18-story office building located at the southeast corner of Spear and Howard, is under construction. On Assessors's Block 3738, southwest of 101 Mission, the 315 Howard Street office building has been approved but not constructed.

Downtown office growth, in general, has also accelerated in recent years. Over 20.2 million gsf of office space has been constructed in the downtown area since 1975 with over 12 million gsf completed between 1980-1983 (see Appendix B, Table B-3).

NOTES - Land Use

/1/ Ben Greene, Building Inspector, Bureau of Building Inspection, phone conversation, April 9, 1984.

/2/ The Foundation for San Francisco's Architectural Heritage, Downtown Architectural Survey: C-3 Zoning District, Final Evaluated List, December 1, 1982.

/3/ Ben Greene, op.cit.

/4/ Ibid.

B. TRANSPORTATION

Downtown

Since the publication of the FEIR for the project, several changes to the transportation network in the downtown have occurred. Most noticeable are the Muni route changes. Figure 2, following page, shows the existing (1984) Muni system in the downtown area. Also shown are the locations of BART stations. Table 3, Transportation Impacts section, shows 1984 ridership on transit agencies serving the downtown area. When the data in Table 3 is compared to that in Table 6, p. 67 of the project's FEIR, it can be seen that ridership on most transit agencies has been steadily increasing between 1981 and 1984. The comparison also shows that AC Transit and SPRR (CalTrain) have been experiencing losses of ridership in recent years. Capacity increases have occurred on several of the transit systems, most noticeably on BART, which has implemented a "short-headways" program, and on Muni, which has changed its basic route structure to provide additional zoned express service to the downtown and enhanced feeder service to BART.

Table 4, Transportation Impacts section, shows pedestrian volumes for 1984. When that table is compared to Figure 15, p. 44 of the project's FEIR, it is apparent that pedestrian volumes on the sidewalks have increased slightly, but not enough to change the pedestrian flow regimen from that reported in the project's FEIR.

The 1983 San Francisco Cordon Count (JHK and Associates, 1983) shows that vehicle traffic volumes crossing the Metropolitan Traffic District (MTD) boundary have not increased substantially since the last cordon count was conducted in 1965./1/ Thus, traffic conditions in 1984 are essentially unchanged from these 1981 conditions reported in the project's FEIR.

Parking availability in the downtown has continued to decline between 1981 and 1984, both as a function of new demand and from loss of existing space to new construction./2/ As a result of the declining availability of parking, occupancies in parking facilities would be higher than those reported in the project's FEIR.

NOTES - Transportation

/1/ The Metropolitan Traffic District (MTD) is the area roughly bounded by China Basin, the Embarcadero, Fourteenth St., Van Ness Ave., Bush St., Powell St., and Pacific Ave.

/2/ San Francisco Department of City Planning, C-3 District Parking Update, December 1982.

C. AIR QUALITY

San Francisco's air quality, in general, is among the least degraded of all the developed portions of the Bay Area. Because of the prevailing westerly and northwesterly winds, San Francisco is more a generator of its own air quality problems (especially carbon monoxide (CO) and total suspended particulates (TSP)) and a contributor to those in other parts of the Bay Area (especially ozone), than a recipient of pollutants from elsewhere. This is because CO and TSP concentrations tend to reflect local emission sources; that is, concentrations are highest at the source and decrease rapidly as the pollutants are dispersed by wind. In contrast, ozone is not directly emitted but is a secondary pollutant formed in the atmosphere by a complex series of photochemical reactions involving reactive hydrocarbons and nitrogen oxides. Ozone air pollution is thus a regional phenomenon because the precursor pollutants are carried downwind as the photochemical reaction occurs.

The Bay Area Air Quality Management District (BAAQMD) operates an air quality monitoring station about 2.5 miles south of the site at 900 23rd Street. A five-year summary of the data collected and the corresponding ambient air quality standards are shown in Appendix D. These data show occasional excesses of the CO and TSP standards. In 1983 there was one exceedance of the state one-hour average ozone standard and also four exceedances of the state 24-hour average TSP standard. In 1982, the eight-hour standard for CO was exceeded once and the 24-hour TSP standard exceeded three times. The one-hour CO standard was never exceeded. (A more stringent one-hour CO standard went into effect January 15, 1983.) The only air pollutant to exceed standards in 1980 and 1981 was TSP; the 24-hour standard was exceeded six times in 1980 and once in 1981.

A special monitoring program, called a Hotspot program, was conducted at Battery/Washington in the winter of 1979/80./1/ The observed high 1 hour average CO concentration was 15 ppm, which is 5 ppm lower than the current state 1 hour average CO standard. The highest 8 hour average was 10 ppm, which exceeds the applicable state and federal standards by 1 ppm.

Another Hotspot monitoring program was conducted at 100 Harrison Street during the winter of 1980-81. The observed high eight-hour average concentration was 7.8 parts per million (ppm), and the highest 1-hour average concentration was 13 ppm. In 1982, a street level 8-hour average CO maximum of 14.5 ppm was measured at the street level monitoring station at 939 Ellis Street near Van Ness Avenue about 1.8 miles southwest of the proposed project. This data indicates that some locations in San Francisco, particularly those near high traffic volumes and congested traffic flow, may experience violations of CO standards under adverse meteorological conditions.

Highest annual pollutant concentrations in San Francisco, while exhibiting fluctuations due to variations in meteorology, have shown an overall improvement during the 1971-1983 period. No similar trend in the annual number of violations of standards is evident, although such occurrences are infrequent (six a year or fewer).

In 1979, emissions from motor vehicles were the source of 94% of the CO, 36% of the hydrocarbons (HC), 7% of the TSP, and 44% of the nitrogen oxides (NO_x) in San Francisco, while power plant fuel combustion was the largest single source of sulfur oxides, about 33% of the total. These percentages are expected to apply reasonably well to current conditions./2/

The nine-county San Francisco Bay Area air basin is designated by the California Air Resources Board (CARB) as a nonattainment area for O₃, CO and TSP. (Nonattainment means the federal ambient air quality standards for these pollutants have been violated within the past two to three years.) As required by the Federal Clean Air Act Amendments of 1977, a regional Air Quality Plan has been adopted for the Bay Area that establishes control strategies to attain federal and state standards by 1987./3/ Air quality control strategies include stationary and mobile source emission controls and transportation improvements to be implemented by the Bay Area Air Quality Management District (BAAQMD), Metropolitan Transportation Commission (MTC), and the CARB.

NOTES - Air Quality

- /1/ Association of Bay Area Governments, AQMP Tech Memo 40, "Results of the 1980/1981 Hotspot Monitoring Program for Carbon Monoxide," Berkeley, California, January 1982.
- /2/ Bay Area Air Quality Management District, Base Year 1979 Emissions Inventory, Summary Report (Revised), San Francisco, California, July 1, 1982.
- /3/ Association of Bay Area Governments (ABAG), BAAQMD and MTC, 1982 Bay Area Air Quality Plan, Berkeley, California, December 1982.

D. RESIDENCE PATTERNS AND HOUSING

Introduction

From the cumulative perspective of both the amount of future downtown development and the regional context for the impacts of this development, two aspects of the analysis of housing-related impacts are important: residence patterns and housing market implications. Residence patterns describe the distribution of downtown workers by place of residence for San Francisco and the rest of the Bay Area region. Analysis of these patterns is useful in assessing the degree to which San Francisco residents benefit from job growth, in estimating travel demand, in considering the relationship between downtown job growth and labor force and housing throughout the region, as well as in considering the housing market effects of development. The discussion of housing market implications focuses on the link between employment growth and the availability and price of housing, how changes in the housing market could affect various groups of consumers, and how residents' circumstances could change as a consequence of these effects.

As background for the subsequent cumulative impact discussion (Section V.E), this section presents current residence patterns for downtown workers, discusses trends in labor force, employment, and population for the City and the region, and describes current housing market conditions in San Francisco and the region.

Residence Patterns for San Francisco and the Region/1/

Current Conditions

In 1984, it is estimated that 159,000 C-3 District workers live in San Francisco. This group represents about 45 percent of all employed residents of San Francisco. Most C-3 District workers (55.5 percent) are estimated to live in San Francisco in 1984. The next largest group (73,000 or 26 percent), live in the east bay. About 35,000 (11.5 percent) live on the peninsula and about 19,000 (seven percent) in the north bay. While, as mentioned above, these workers represent a relatively large share of the

employed population in San Francisco (45 percent), they represent relatively smaller shares of the employed population in each of the other areas (less than 10 percent in each).

Changing Conditions and Trends/2/

The current conditions described above are not static, and in fact, have been changing over time. Trends indicate that the number of San Francisco workers who live in the City is increasing. The percentage that they represent of total City employment is declining. Changes in population, housing, labor force, and employment in San Francisco and the rest of the region provide background for these trends./3/

Changes in the demographic composition of the City's population have resulted in a growth of employed persons (an increase of 24,200 from 1970 to 1980) despite the overall decline in total population (a decrease of 36,700 from 1970 to 1980). The growth of employed persons largely reflects higher labor force participation than in the past since the number of people in their working years (ages 16-64) has been relatively constant.

The number of households and housing units in the City has continued to increase, although by a relatively small amount. Given the population decline, the average number of persons per household has also decreased. Because of the changing composition of the population, however, the number of adults and of employed adults per household has increased.

Demographic trends related to the population and labor force characteristics of the region outside of San Francisco show similarities to the trends for the City described above. From 1970 to 1980, the growth of employed persons exceeded the growth of the total population. Employed residents in the rest of the region increased by 670,000 (nearly 45 percent growth) over the past 10 years, while population increased by 588,000 persons (about 15 percent growth). This reflects both the passing of the "baby boom" generation into their labor force years and the increasing labor force participation of women. The growth of employed residents exceeded the growth of households

and of housing units, so the average number of workers per household increased. The main differences between San Francisco and the rest of the region are the magnitudes of the changes, as the amount of growth in population and employed persons was much larger in the rest of the region than in San Francisco.

In the midst of these changes in population and labor force, business activity and employment have continued to grow in San Francisco. Jobs have grown at a faster rate and by a larger amount than the number of employed residents in the City. Thus, although the number of San Francisco jobs held by City residents has increased, the percent of jobs held by residents has declined. There has also been an increase in the percentage of San Francisco jobs held by persons living elsewhere in the region. This indicates the increasing relative importance of housing and labor force outside of San Francisco to jobs in the City.

When considered from the perspective of City residents, the number of employed City residents working in San Francisco increased from 1970 to 1980. Although the percentage of residents working in San Francisco remains high (86 percent in 1980) this percentage has been declining. Reasons for this trend include the large growth of jobs in other counties of the region and the relocation of some San Francisco jobs to other counties. (San Francisco's share of total regional employment has declined, even though the City's employment has increased substantially.) Another factor is the increase in households with more than one worker which increases the likelihood that some workers will commute to jobs outside the City.

The trends described above incorporate a combination of many individual changes in employment and place of residence. Changes in the place of residence of San Francisco or C-3 District workers occur as individuals are newly employed in San Francisco or the C-3 District who had not previously worked there and as both existing and newly employed workers move within the region.

The changes which result in individuals being newly employed in the City (who had not previously worked there) can affect overall residence patterns if those newly employed have different household and housing characteristics from those whom they replaced or from all other workers in the City. They are likely to have different characteristics if the mix of types of jobs is changing (such as more office jobs relative to other types of employment), if the demographic characteristics of the workforce in general are changing (such as changes in age distribution or ethnic/racial characteristics) or if there are changes in the distribution of the labor force within the region (such as more growth of labor force members in the areas surrounding San Francisco than in the City itself or substantially larger growth in San Francisco employment than in employed City residents).

Changes in residence patterns also reflect housing market factors. Housing market factors have been particularly important in the recent past since the housing choices (housing types, prices, rents, locations) available have changed dramatically over the past five to ten years. Housing is now more costly relative to incomes and to other goods and services than it was in the past. Further, a greater share of the region's housing is now located outside of San Francisco and City housing has become more costly relative to housing in many other parts of the region than it once was. While housing choices change over time, their effect on residence patterns primarily occurs when a household enters the market to purchase or rent housing. Thus, as workers change their place of residence a greater share are likely to live outside of San Francisco and those who choose to reside in the City may have different characteristics from the average of all other employees who secured housing in San Francisco under a different market situation.

Housing Market Conditions in San Francisco and the Bay Area Region

Housing Market Context

Since the early 1970's, housing prices and rents have increased dramatically in San Francisco and throughout the Bay Area. Demand for housing has been strong and supply has not kept pace with demand in many areas. In addition, in the early 1980's there were major changes in financial markets which

substantially increased the cost of money for housing. Many different factors contribute to the current housing market situation. These include changing lifestyles, changing demographic and household characteristics, changing household incomes, employment growth, the attractiveness of the Bay Area as a place to live, the availability and cost of financing, the attractiveness of real estate as an investment, no-growth policies in some communities, and the increasing scarcity of land in other communities.

As a result of all of these factors, many households now allocate a greater share of their financial resources to housing, and the housing choices available at various prices and rents have changed. Many people cannot now afford the housing they prefer and many are not housed at the standard that, until recently, they had come to expect.

Changing Conditions In San Francisco's Housing Market

Over the decade from 1970 to 1980, net additions to the City's housing stock included 6,200 units for an increase of two percent. About 1,900 units were added from 1980 through 1982. Most of the units added were for-sale housing. Overall, about one-third of the City's stock continues to be owner-occupied and about two-thirds renter-occupied. Among Bay Area counties, San Francisco has the largest percentage of units that are renter occupied./4/

This net addition represents low growth of the housing stock relative to the strength of demand over this period. The low vacancy rate in San Francisco highlights the severity of the housing market pressures in San Francisco. Data from the Federal Home Loan Bank show a vacancy rate of 0.8 percent for San Francisco. San Francisco had the lowest housing vacancy among the nine counties of the Bay region in 1980./5/

These market pressures are part of the explanation for the substantial increase in housing prices in the City. Market trend data based on appraisals indicate that housing value increases averaged 8.5 percent per year in the early 1970's and over 23 percent per year from 1975 to 1980. From 1980 to 1983, appreciation has slowed to around an annual average of six percent.

San Francisco housing prices remain above those for housing in many other parts of the region. The market trend data indicate that the rates of increase in San Francisco have exceeded those in most other areas./6/

Rents in San Francisco have also increased. Census data indicate that median contract rent more than doubled from 1970 to 1980, for an average annual growth of 7.6 percent. Rents in San Francisco generally cover a wider range than rents in other parts of the region, including some of the lowest rent housing and some of the most expensive rental units in the region./7/

Despite rising housing prices and rents, the private market continues to be unable to produce enough new housing to relieve competitive pressures. Because of the high costs of land, financing, and construction, the private market cannot produce housing that is affordable to many households. There is particular difficulty in producing rental housing, since residential rents, unlike for-sale housing prices, have not kept pace with rising construction and land costs or with inflation.

Incomes of City residents have not kept pace with increases in the costs of housing. During the 1970's, on average, income increased by about 135 percent over the period while housing costs overall (combining median prices and rent) went up about 165 percent./8/ Thus, the percentage of income allocated to housing increased.

The percentage of income spent on housing is higher for lower income households. The percentage declines as income increases. Across income categories, the percentage of income spent on housing is higher for renters than for owners. For example, Census data show that of the 31 percent of households with incomes under \$10,000 in 1979, on average, the renters spent 48.6 percent of their income for housing and the owners spent 26.0 percent for housing. Of the 39 percent with 1979 incomes of \$20,000 or higher, the renters spent 15.7 percent of their income on housing while the owners spent 11.2 percent./9/

In the current housing market, there continue to be incentives to upgrade existing housing. Consumers priced out of higher priced neighborhoods are often attracted to other areas where housing can be secured initially at lower costs and investments made to upgrade the units. As this occurs, the desirability of the area improves, prices and rents rise, and there are changes in the types and incomes of the households living in the neighborhood. Moreover, the housing stock at lower prices and rents is reduced. This phenomenon (often called "gentrification") has occurred in areas of San Francisco. It has occurred primarily in neighborhoods with housing priced at below average levels but which is not the lowest priced housing in the City. In recent years, increasing preferences for central city neighborhoods and older housing and an increase in the types of households with these preferences have combined with overall competitive market conditions to support upgrading of this type.

Regional Perspective on Housing Market Conditions

Most of the housing market conditions described above for San Francisco are applicable throughout the Bay Area. Increases in home prices and in interest rates during the past decade have raised the cost of ownership housing. As a result, many first time homebuyers and new entrants into the region's housing market now have difficulty affording Bay Area housing. In the rental housing market, a large number of households also face an affordability problem. The lack of new construction and continued strong demand support upward pressure on rents. Among renters, there are many lower income households who are faced with increasing difficulty securing affordable housing.

Although these conditions exist to some extent in other parts of the country, the Bay Area remains one of the most desirable places to live and has one of the most competitive housing markets in the nation. Because of the limited supply of land in San Francisco, the role of the City as the employment center for the region, and the demographic characteristics of the City's population, the region's market conditions, in terms of supply, demand, and price, are at their extreme in San Francisco.

Between 1970 and 1980, 436,200 housing units were added in the Bay Area. Most of the additions were in the east bay and the peninsula, each with about

40 percent of the total increase. The largest percentage increase in housing over the period occurred in the north bay counties./10/

The shortage of supply relative to demand is evidenced in the vacancy rates for Bay Area counties. In 1982, the vacancy rate in each Bay Area county was below two percent. With the exception of Solano County (where the 1980 vacancy rate was three percent) this situation has persisted since 1980./11/

Market trend data on the value of single family residences in the Bay Area reflect the strong demand for housing in the region. Over the region as a whole, housing values increased almost four-fold between 1973 and 1983; the annual rate of increase in value was about 14 percent per year, compounded. The pattern is similar among east bay, peninsula and north bay housing sub-markets. In San Francisco, the data indicate somewhat stronger demand and more market pressure on existing units than the average for the region./12/

NOTES - Residence Patterns and Housing

- /1/ The data and information presented in this sub-section are based on a survey and analyses of C-3 District employment and residence patterns prepared for the Downtown Plan EIR. This information, therefore, does not account for all workers in the greater downtown area; it does, however, describe the majority of the workforce in that area. The residence patterns for C-3 District workers in 1984 are presented in the Downtown Plan EIR on pp. IV.D.36-39 and, in the context of future residence patterns, in Table IV.D.15 on p. IV.D.64. The survey results related to the residence patterns of C-3 District workers are presented in the setting section on Residence Patterns and Housing (Section IV.D) in the Downtown Plan EIR, which is available for review at the Department of City Planning.
- /2/ The trends summarized here are discussed in more detail with relevant tables in the Downtown Plan EIR, pp. IV.D.42-53, which are hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.
- /3/ Population and employment data from the U.S. Census, 1960, 1970 and 1980 for San Francisco and the region are the basis for the following discussion.
- /4/ U.S. Department of Commerce, 1970 Census of Population and Housing, and 1980 Census of Housing and San Francisco Department of City Planning, Residence Element of the Comprehensive Plan, June, 1984.

- /5/ Real Estate Research Council, Year-End 1982 Report - August, 1983,,
Volume 34/Numbers 2 and 4.
- /6/ Real Estate Research Council, Market Trend Report - April, 1983, Volume
35/Number 1.
- /7/ U.S. Department of Commerce. 1970 Census of Population and Housing, and
1980 Census of Housing.
- /8/ Ibid.
- /9/ Ibid.
- /10/ Ibid.
- /11/ Real Estate Research Council, Year-End 1982 Report - August, 1983,
Volume 34/Numbers 2 and 4.
- /12/ Real Estate Research Council, Market Trend Report - April, 1983, Volume
35/Number 1.

V. ENVIRONMENTAL IMPACTS

A. INTRODUCTION TO CUMULATIVE IMPACT ANALYSIS

Comparison of Two Approaches

Two approaches are used to assess cumulative impacts. The "Downtown Plan forecast" approach presents a cumulative scenario for C-3 District land use change, employment growth, and residence patterns between 1984 and 2000. The forecasts are based on analysis of policies affecting the size, cost and location of new development, in the context of underlying local and regional economic conditions influencing the demand for space. The "list-based" approach uses the March 10, 1984 list of projects in the greater downtown area that are under construction, approved, and under formal review by the Department of City Planning as the basis for estimating future activity.

- (See Appendix B, pp. A-6 to A-13, for a complete listing of projects on the cumulative list and an explanation of the list.) The space in projects on the list represents foreseeable future development which is added to the base year (1984) level of activity.

In the subsequent cumulative impact sections, the project's effects are compared to the overall effects within each of these two cumulative contexts. Because of several essential differences between the two approaches, however, estimates of cumulative effects derived from each approach cannot be directly compared.

The following chart (Figure 3) highlights the differences between the Downtown Plan forecast approach and the list-based approach. Generally, the basic difference is that the Downtown Plan approach accounts for changes to a range of land uses as well as changes over time in worker characteristics and behavior, while the list-based approach is limited to known projects of certain types and assumes unchanging characteristics and behavior. These two approaches are alternative means of assessing the future cumulative context for downtown development. They use different available data sources and information and different assumptions. The specifics are listed in the chart.

Figure 3: COMPARISON OF CUMULATIVE IMPACT ASSESSMENT METHODOLOGIES

	<u>Downtown Plan Forecast Approach</u>	<u>List-Based Approach</u>
<u>Focus of Impact Assessment</u>	<ul style="list-style-type: none"> • Impacts of C-3 District land use and employment within context of rest of City and region 	<ul style="list-style-type: none"> • Impacts of land use and employment in the greater downtown area (including C-3 District and adjacent areas) within context of rest of City and region
<u>Timeframe</u>	<ul style="list-style-type: none"> • 1984 base year • Changes in C-3 District land use and employment forecast to occur between 1984 and 2000 	<ul style="list-style-type: none"> • 1984 base year • Changes in greater downtown land use and employment determined by build-out of March 10, 1984 List of Cumulative Office Development In Downtown San Francisco. (Although no date is attached to this build-out, it could occur between 1990 and 2000)
<u>Land Use</u>	<ul style="list-style-type: none"> • 1984 base year includes all land uses • Incorporates changes over time in office, retail, hotel, industrial, and all other C-3 District space • Reflects changes in response to market demands for space within context of C-3 District planning policies • Incorporates new construction, demolitions, and conversions for all land uses • Incorporates more intensive use of space (both existing and new) over time. (e.g. employment density for management/technical office is 276 gross sq. ft. of occupied space per employee in 1984 and 267 gross sq. ft. per employee in 2000) 	<ul style="list-style-type: none"> • 1984 base year includes all land uses • Incorporates net additions of office and retail space in greater downtown area as shown on the List • Reflects changes as a result of development of projects on the List • Incorporates new construction and demolition of office and retail space and conversions to office and retail uses as included on the List • Intensity of use of space does not change over time. (e.g. employment density for management/technical office is always 276 gross sq. ft. of occupied space per employee)
<u>Employment</u>	<ul style="list-style-type: none"> • 1984 base includes all C-3 District employment • Changes over time incorporate increases and decreases in all types of permanent employment directly associated with a land use, in building maintenance/security employment, and in construction employment 	<ul style="list-style-type: none"> • 1984 base includes all employment in the greater downtown area • Changes over time incorporate the growth of office and retail employment as a result of development of the projects on the List
<u>Residence Patterns and Housing</u>	<ul style="list-style-type: none"> • Residence patterns change over time reflecting changing regional labor force, housing market, employment and transportation factors. (e.g. the percentage of C-3 District management/technical office workers living in San Francisco is currently 49% and would decline to 44% in 2000) 	<ul style="list-style-type: none"> • No change in residence patterns from current conditions (e.g. the current 49% of C-3 District management/technical office workers living in San Francisco is assumed to continue to apply)
<u>Transportation</u>	<ul style="list-style-type: none"> • Trip generation has been adjusted to account for travel between buildings (such as between office and retail uses) which does not leave the downtown • Modal split changes over time reflecting capacity improvements, changing residence patterns, and behavior adaptations • Includes growth of local and regional non-C-3 District travel 	<ul style="list-style-type: none"> • No adjustment made to trip generation; all trips for buildings on the List counted as new travel in or out of downtown • No changes from current modal splits are assumed • Local and regional non-C-3 District travel assumed to remain constant at 1984 levels except for addition of travel due to development of the projects on the List
<u>Key Reference</u>	<ul style="list-style-type: none"> • Downtown Plan EIR, EE81.3, March 16, 1984 	<ul style="list-style-type: none"> • Transportation Guidelines for Environmental Impact Review: Transportation Impacts, September, 1983

Comparison of the Project to Cumulative Development in the C-3 District and the Greater Downtown Area

The two approaches to cumulative assessment of transportation, air quality, energy and housing impacts start with estimates of building development. Over the 1984-2000 period, a net addition of 21.7 million sq. ft. of space is forecast for the C-3 District under the Downtown Plan. This estimate falls near the lower end of the range represented by the five Alternatives to the Plan (between the 21.3 million sq. ft. net addition forecast for Alternative 5 and the 29.9 million sq. ft. net addition forecast for Alternative 2).^{/1/} As of March 10, 1984, the City's list of cumulative office development in downtown San Francisco included the net addition of 19.9 million sq. ft. of office and retail space in the greater downtown area.

The project (200,200 sq. ft. of net additional office and retail space) can be compared to each of these estimates of cumulative development. The project is in the C-3 District and would be completed during the 1984 to 2000 period. It would represent 0.9 percent of the total increase in space forecast for this area under the Downtown Plan. The project is also on the list of cumulative office development and would represent about 1.0 percent of the total net additional space in projects on the list.

NOTES - Introduction to Cumulative Impact Analysis

- /1/ The Alternatives to the Downtown Plan are summarized in the Downtown Plan EIR, EE81.3, published March 16, 1984, in Section VII., Alternatives. Alternative 1 is the "Planning Code Alternative"; Alternative 2 is the "Chamber of Commerce Alternative"; Alternative 3 is the "Proposition 'O' Alternative"; Alternative 4 is the "San Franciscans for Reasonable Growth Alternative"; and Alternative 5 is the "Department of City Planning Alternative".

B. TRANSPORTATION

(The following material replaces pages 65 through 75, paragraph 2 in the FEIR.)

TRAVEL DEMAND ANALYSIS

Project Travel Demand

On the basis of land use, the project described in the FEIR would generate about 3,970 net new person trip-ends (pte) per day./1/ These figures include trips made by auto, public transit, service vehicles, and other modes (and include trips by both visitors and employees). Travel generated by originally existing office and retail uses on the project site has been subtracted from the total new travel to give the net new travel from the site. Projected p.m. peak-period and peak-hour trips by mode expected to be generated by the project are shown in Table 1. About 620 new outbound trips would occur during the p.m. peak period from the project, of which about 390 would occur in the p.m. peak hour./2/

Modal assignments have been made on the basis of future modal splits for the year 2000 contained in the EIR for The Downtown Plan (EE81.3)./3/ The future modal splits have been applied to the project travel for the purpose of comparing project travel with future travel demand on the transportation system serving San Francisco. The modal splits used were derived from aggregate data for the C-3 District, the zoning district that contains the project site, and thus represent an average condition. The actual modal split for travel from the project may vary from the C-3 District average. However, because the travel demand forecasts used to derive the average modal split data include the travel from the project, application of the average modal split data to project travel appears to be sufficiently accurate for purposes of comparison.

Cumulative Travel Demand

Analysis of the transportation impacts of cumulative development in San Francisco EIRs has been the subject of considerable public discussion. To date, cumulative analysis has been conducted on the basis of a list of

proposed development in the greater downtown area (see Table B-2, Appendix B, for the March 10, 1984 list of these projects). The Downtown Plan EIR method is a refinement of the transportation analysis process that uses projections of employment growth, independent of a list of proposed projects, to project future travel./4/

TABLE 1: PROJECTED OUTBOUND TRAVEL DEMAND BY MODE FROM THE PROJECT (pte/a/)

<u>Travel Mode</u>	<u>P.M. Peak Period/b/</u>	<u>P.M. Peak Hour/b/</u>
Drive Alone	90	● 60
Car/Vanpool	95	70
Muni	160	85
BART	120	80
AC Transit	30	20
SamTrans	10	10
SPRR	10	10
GGT Bus	30	20
Ferry	5	--
Walk Only	60	30
Other	10	5
TOTALS (rounded)	● 620	390

/a/ Person trip-ends.

/b/ The peak hour occurs during the two-hour peak period of 4:00-6:00 p.m.

SOURCE: Environmental Science Associates, Inc.

As discussed in Appendix J of the Downtown Plan EIR, transit service improvements have been assumed to be implemented by the year 2000. The service improvements assumed to occur correspond to the vehicle acquisition portions of the 5-Year Plans for Muni, AC Transit, SamTrans, CalTrain, and Golden Gate transit. In BART, both the vehicle acquisition program and the trackage improvements (Daly City tail track) were assumed to occur. These planned improvements would allow system capacities to keep pace with demand increases over time. The Downtown Plan EIR transportation analysis also assumes that regional auto use will continue to change over time in response to increasing levels of congestion on the bridges and freeways serving the

City. The analysis projects a shift from single-occupant auto use (drive alone) for commuting to ridesharing (carpool, vanpool), and to transit use. The assumptions of continuing shift from auto to transit and ridesharing, most apparent in the 2000 modal splits, are made on the basis of long-term trends in transit use in the San Francisco commute corridors. Census data show that in the period 1970 to 1980, transit use for commuting increased. Similarly, Bay Bridge data show that ridesharing has been increasing over the last seven years. Thus, the shift to transit and ridesharing is well-established in San Francisco commute corridors.

The travel data presented in the Downtown Plan EIR transportation sections (and in this report) are projections of total demand on the transportation system serving San Francisco. The projections comprise three components of travel demand. Two of the components were developed through an intricate travel modelling process for the C-3 District of San Francisco. These first two components of travel demand are C-3 District work (employee journey-to-work) travel and C-3 District non-work (all other) travel. The third component is non-C-3 District travel, which was forecast through an analysis of regional trends adjusted for the effect of development in the C-3 District. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region. Employment projections are not specifically used in the non-C-3 travel analysis.

Although the C-3 District transportation modelling process used analytical techniques common to travel forecasting, several portions of the process are unique to the C-3 District. The uniqueness is the result of the development of two major data bases - an inventory of existing land uses in the district and surveys of employees and employers in the district. The data developed from the surveys and the inventory have been used as the basis for forecasts of development and employment growth in the C-3 District. Sections IV.B, Land Use and Real Estate Development; IV.C, Business and Employment; IV.D., Residence Patterns and Housing; and Appendices G, Land Use and Real Estate Analysis; H, Business and Employment Analysis; and I, Theoretical Discussion

of Housing Market Effects/Methodology for Forecasting Residence Patterns, of the Downtown Plan EIR, which contain detailed information about methods used to project future employment in the C-3 District, are incorporated by reference into this report and summarized below and in the Land Use and the Residence Patterns and Housing sections of this Supplemental EIR.

The cumulative analyses for forecasting future land use, employment, and residence patterns are described in the Downtown Plan EIR. Appendix sections therein describe the methodology, identify the factors considered, and identify the types and sources of data used. A concise description of the major components of the process of developing employment and land use development forecasts is presented in the flow charts in Figure H.1 and Figure G.1. The factors considered in forecasting residence patterns are identified in the diagram in Figure I.1.

The Downtown Plan EIR approach for forecasting future land use, employment, and residence patterns is based on a conceptual framework of the process of urban economic development. The analytical procedures incorporate a variety of types and sources of data and information concerning past, current, and likely future conditions regarding economic, real estate, demographic, and public-policy factors.

The employment projections in the Downtown Plan EIR for the year 2000 exceed the employment projected using the current list-based cumulative analysis, as the list cannot take into account projects not yet proposed. The employment forecasts have been used as the basis for the travel demand modelling process. As described above, the C-3 District travel comprised two of the three components of total travel. Because of the use of the employment projections in the travel demand modelling process, the transportation forecasts for the year 2000 are independent of lists of cumulative development.

Through a complex calibration and validation process of comparing projections of travel demand modelled on the basis of the survey of C-3 District employees to actual travel from measurements made by state, city and regional agencies, work and non-work travel demand from the C-3 District was modelled for the years 1984, 1990 and 2000. The modelling process comprises the following steps:

- Trip generation rates (empirical measures of total travel to and from a specific land use) were applied to employment forecasts by business activity (i.e., different rates were used for various land uses).
- The total travel from the C-3 District was distributed to seven Bay Area zones on the basis of projections of future employee residence patterns and origin-destination patterns for non-work travel.
- Trips to each of the seven regional zones were assigned to travel modes on the basis of modal splits (distribution of travel over the transportation modes -- auto, transit, etc.) developed from the C-3 District surveys.

At this stage of the process, the model forecasts total travel from the C-3 District. To complete the process and to allow analysis of the effect of travel demand from C-3 District development on the transportation network, the non-C-3 travel demand was analyzed. The total travel demand was calculated by summing C-3 District work and non-work travel and non-C-3 travel at sub-regional measuring points (called screenlines) located at or just beyond the San Francisco County Line (except for Muni and BART westbay service which were measured inside San Francisco, outside the downtown). The total travel demand was then compared to available service (capacity) at the screenlines and operating conditions (demand-to-capacity ratios) were analyzed assuming planned improvements. The results of those analyses are summarized later in this section.

For future years, the C-3 travel modelling process was modified to incorporate changes in travel patterns (modal split changes, different travel times), employee residence patterns and changes in land use patterns. The process incorporates the dynamic aspects of changing Bay Area travel patterns, rather than assuming a fixed, unchanging condition over time. An example of past changes in travel patterns can be seen in the amount of carpooling activity on the Bay Bridge. In 1977, peak average vehicle occupancy westbound on the Bridge was 1.7 persons per vehicle. By 1983, in response to increasing congestion and increased travel and parking costs, peak average vehicle occupancy westbound increased to 2.1 persons per vehicle./5/

The non-C-3 travel demand was forecast through the use of growth factors developed on the basis of historic trends in regional and sub-regional travel./6/ Historic growth rates (factors) have been used to project increases only for non-C-3 District travel at the regional screenlines. No other use of historic growth rates has been made in the transportation analysis. Because of the individual and unique nature of each of the transportation screenlines, each growth rate is based on data for that location. Thus, the growth rates for freeways project growth in auto trips, while the growth rates for transit project growth in ridership.

Each of the historic growth rates inherently contains information about regional growth in travel patterns and thus incorporates not only growth from other parts of San Francisco, but from elsewhere in the region. As an example, the historic growth factor for trips southbound on US 101 includes travel that crosses the Bay Bridge or the Golden Gate Bridge as well as travel from San Francisco. However, the growth is projected as growth in auto travel and cannot be related directly to growth in employment in San Francisco.

The other process used to forecast cumulative transportation impacts starts with a list of cumulative office and retail development (net new office and retail space) proposed, approved or under construction in the greater downtown area. From that list, through the use of static employment densities for office and retail uses and established trip generation rates, forecasts of travel demand are made. The forecast travel is assigned to modes on the basis of modal split factors which are assumed not to change over time. The Transportation Guidelines for Environmental Impact Review: Transportation Impacts (Department of City Planning, September 1983, hereinafter Transportation Guidelines) describe the process and the data used to calculate transportation impacts from the list-based development.

The current list, shown in Table B-2, has about 19 million gross sq. ft. of net new office space and about 0.9 million gross sq. ft. of net new retail space. On the basis of the Transportation Guidelines analysis, the list-based development would generate approximately 80,000 p.m. peak-period person trip-ends, of which about 49,000 would occur in the p.m. peak hour. Table 2 shows a comparison of the projections of travel demand from the list-based

TABLE 2: COMPARISON OF LIST METHOD AND ECONOMIC FORECAST METHOD - OUTBOUND P.M. PEAK-HOUR CUMULATIVE TRAVEL DEMAND FOR THE C-3 DISTRICT (person trip ends)

Mode of Travel	3/10/84 List/a/	Downtown Plan (1984-2000)/b/	Alternative 1 (1984-2000)/b/	Alternative 2 (1984-2000)/b/	Alternative 3 (1984-2000)/b/	Alternative 4 (1984-2000)/b/	Alternative 5 (1984-2000)/b/
Work Person Trip-ends	22,100	41,400	47,600	46,200	44,400	39,100	39,700
Other Person Trip-ends	8,200	12,100	14,700	14,200	13,400	11,800	11,800
Total Person Trip-ends	30,300	53,500	62,500	60,500	57,900	51,000	51,600
Muni Northeast	900	1,600	1,700	1,600	1,600	1,700	1,700
Northwest	3,700	1,800	2,000	1,900	1,800	1,800	1,800
Southwest	3,100	1,100	1,100	1,000	900	800	800
Southeast	600	1,100	1,000	1,000	1,000	600	700
BART Transbay	4,500	11,800	13,300	13,100	12,700	11,300	11,300
Westbay	1,900	2,400	2,800	2,700	2,600	2,300	2,300
AC Transit	1,700	200	600	500	300	-100	-100
GGT Bus	1,100	3,200	3,700	3,600	3,500	2,700	3,100
Ferry	300	800	800	800	800	800	800
SamTrans	300	1,200	1,300	1,300	1,200	1,000	1,100
SPRR/CalTrain	500	1,800	2,000	1,900	1,800	1,700	1,700
Regional Auto/c/							
Golden Gate Bridge	370	410	630	590	540	390	370
Bay Bridge	960	1,250	1,550	1,540	1,510	1,060	1,110
Bayshore Freeway (U.S. 101)	420	470	650	620	590	400	400
Interstate 280	420	470	650	620	590	400	400

/a/ Travel from only those projects on the list that are located inside the C-3 District. The list also contains development located in the greater downtown area outside the C-3 District; travel from those projects has been included in the list-based travel shown in the remainder of this section.

/b/ Travel from the C-3 District only. The analysis used in the Downtown Plan Draft EIR assumes growth in regional travel that is not shown above; it is discussed in the remainder of this section.

/c/ Vehicle trip-ends; calculation made on the basis of 2.7 persons per carpool and 12 persons per vanpool. Person trip-ends on transit cannot be added to vehicle trip-ends to obtain total person trip-ends because of the varying numbers of persons per vehicle.

SOURCE: Environmental Science Associates, Inc.

analysis and from the Downtown Plan EIR for the year 2000. While the list contains development both inside and outside the C-3 District, the Downtown Plan EIR makes specific projections only for C-3 District development, and the travel components shown in Table 2 are for the C-3 District only; therefore, for purposes of comparison, travel from the C-3 component of the list (about 13 million gross sq. ft. of net new office space and 0.4 million gross sq. ft. of retail space) has been analyzed for comparison with the projections from the Downtown Plan EIR for Alternatives 1 to 5 and the Downtown Plan. The impact analysis (see pp. 50-66) has considered the total amount of development (both C-3 and non C-3) on the Cumulative List.

As shown in Table 2, travel demand from the Alternatives in the Downtown Plan EIR ranges from Alternative 1 (about 17% higher than the Downtown Plan) to Alternative 4 (about 5% lower than the Plan). Although there is a range, the spread is within the level of accuracy of the transportation analysis, and thus, statistically, the transportation impacts of the Alternatives are equivalent to those of the Downtown Plan.

Several anomalies are apparent in the data shown in Table 2. The major anomaly is that, while the C-3 component of the list would generate about half as much travel as do the Downtown Plan and the five Alternatives, the list-based analysis yields projected travel demands within San Francisco (inside and outside the C-3 District) that exceed those generated by the Downtown Plan and the Alternatives. An explanation of this major anomaly is presented in the following paragraphs.

The difference in total travel results in part from the different time frames of the list and the Downtown Plan EIR. The Downtown Plan EIR established 1984 as the baseline year and 1990 and 2000 as target study years. Estimates of growth were made on the basis of projections for each of the target years for the range of alternatives. In contrast, the projects included on the Cumulative List span a period from 1984 to sometime in the early or mid-1990's when completion of all projects on the list or a similar amount of square footage would be expected./7/ This is one of the major reasons why results of impact analyses using these two forecasting methods are not directly comparable.

The variations in travel by trip purpose (work, other) and by travel mode (as shown in Table 2) between the list-based method and the Downtown Plan EIR method can be explained by differences in the methodologies and data bases used to forecast the travel demand. The list-based analysis employs single-use trip generation data to estimate total travel through the process of adding together the trip generation estimates from all the individual buildings on the list. These single-use trip generation rates do not incorporate any discounting factors to account for trips going from one building to another within the Downtown. Studies for the Downtown Plan EIR have confirmed that there is considerable travel between land uses in the downtown area. Thus, the list-based analysis adds each trip as if it were a new trip in or out of the downtown and overestimates the total number of peak-hour trips.

The Downtown Plan EIR travel demand model has refined the trip generation process by incorporating discounting factors that adjust the trip generation rates to give travel to and from the C-3 District as a whole; it does not include trips internal to the C-3 District. Although the Downtown Plan EIR process projects proportionately more work travel than does the list-based analysis, observations show that the Downtown Plan EIR forecasts more closely resemble actual travel demand that would result from downtown development.

The differences in distribution of travel among modes (shown in Table 2) are the product of refinements in the regional distribution and modal split analyses in the Downtown Plan EIR process. The list-based analysis assumes a static (unchanging over time) regional distribution and static modal splits. The Downtown Plan EIR analysis has incorporated changes in both the regional trip distribution (reflecting projected availability of housing) and the modal splits (reflecting projected availability of roadway and transit capacity in the future).

The list-based analysis yields more San Francisco travel (as shown by larger Muni numbers for the list-based analysis in Table 2) than does the Downtown Plan EIR analysis, because the Downtown Plan EIR analysis projects a declining availability of housing in the City. Thus, as the downtown work

force increases, the percentage of workers living in San Francisco would decrease. The list-based analysis assumes that the percentage of workers living in San Francisco would remain constant over time and thus overestimates the numbers of future employees living in the City and underestimates the numbers of regional commuters.

Other differences in travel among the modes, particularly regional auto and AC Transit, are the result of the refined modal split process used in the Downtown Plan EIR. As the list-based analysis assumes that modal split remains constant over time, the list-based analysis is insensitive to the abilities of transit agencies and regional roadway systems to serve future demand. The Downtown Plan EIR analysis has assumed that the modal split would change over time in response to the increasing levels of congestion at the regional screenlines (described in the Downtown Plan EIR). Thus, because the Bay Bridge is at or near capacity in the p.m. peak hour eastbound, the Downtown Plan EIR modal split projects a proportionately lower increase in auto demand to the East Bay than does the list-based analysis. Similarly, for AC Transit the Downtown Plan EIR recognizes that current regional transit policy dictates no increases in AC Transit transbay service and thus, the ability of AC Transit to carry additional riders transbay will be restricted in the future. Use of this changing modal split is a refinement that allows the travel model to more accurately forecast travel demand and thus, the Downtown Plan EIR results represent a more accurate level of projection than has been possible using methods and data available to date.

Various other factors cause differences in the travel demand projections between the two approaches. The Downtown Plan EIR and the Consultant's Report on Downtown Growth Management Alternatives (Environmental Science Associates, 1983) contain extensive discussion of the analyses and data used to forecast employment, land use (see sections cited above) and transportation demand (see Section IV.E and Appendix J of those reports).

TRANSIT

The transit agencies serving downtown San Francisco carry approximately 60% of the peak-period employee work travel, as well as about 20% of the peak-period other travel. P.M. peak-hour and peak-period loadings on the local and

regional transit routes were found to be near capacity for some of the routes in 1984 (see Table 3). The values shown in Table 3 are sums over the peak hour and the two-hour peak period. Within the peak hour, there would be periods of time when the loading ratios would be higher than those shown for the hour (peak-of-the-peak conditions). Individual transit vehicle loadings vary on a day-to-day basis because of fluctuations in ridership (demand) and because of variations in operating conditions caused by traffic congestion, equipment availability, and/or system breakdowns. Photographic examples of p.m. peak-hour loadings on Muni vehicles are shown in Appendix C, Figure C-1.

The 1981/82 transit ridership and loading data used in the Downtown Plan EIR analysis are summations of actual counts of individual transit lines for that period in time. Calculations are made on the basis of observed operating conditions, as opposed to scheduled operations. Muni supplied the data for the Downtown Plan EIR analysis from its ongoing program of ridership checks. (The data supplied and collected for each transit agency are in the supporting documentation for the Downtown Plan EIR, on file with the Office of Environmental Review, 450 McAllister St., Fifth Floor, San Francisco, CA.) Muni was involved in the process of verifying the transportation analysis for the Downtown Plan EIR and as a result of that process, approved of the use of Muni data and the projections derived from that data.

The Level of Service concept, similar to that developed for highway operations, has been applied to both bus and rail transit. Passengers per seat (i.e., total passengers divided by the number of seats) has been used as the measure of effectiveness to define the various level of service ranges. Table C-1, Appendix C, shows the relationship between Level of Service and passengers-per-seat (P/S) ratios for bus transit systems.

During the p.m. peak hour in 1984, all of the transit agencies were found to be operating in Level of Service D or better, with the exception of BART Transbay where conditions were found to be at Level of Service F, and Muni in the Northwest and Southwest corridors, where operations were found to be in Level of Service E. Although BART is a rail transit service, its cars have a unique seating configuration. The ratio of total capacity to seated capacity for a BART car (about 1.5) is equivalent to the ratio for bus transit;

TABLE 3: OUTBOUND REGIONAL TRANSIT DEMAND AND LEVEL OF SERVICE

Transit Agency	1984				2000				1984 + CUMULATIVE LIST			
	Riders	P/S/a/	LOS/b/	Demand	P/S	LOS	Project Percent/c/	Rounded Demand	P/S	LOS	Project Percent/c/	
P.M. Peak Hour												
Muni												
Northeast	7,100	1.16	D	8,800	1.05	D	0.1	8,700	1.04	D	0.1	
Northwest	8,200	1.26	E	10,100	1.25	D	0.3	12,900	1.59	F	0.3	
Southwest	13,500	1.45	E	16,600	1.42	E	0.2	17,500	1.50	E	0.2	
Southeast	5,300	1.06	D	7,400	1.01	D	0.1	6,400	0.88	C	0.1	
BART												
Transbay	16,100	1.53	F	27,900	1.42	E	0.2	21,900	1.12	D	0.3	
Westbay	7,700	1.10	D	10,100	1.06	D	0.2	10,200	1.07	D	0.2	
AC Transit	9,100	0.94	C	10,500	1.08	D	0.2	11,300	1.16	D	0.2	
GGT Bus	5,300	1.00	C	8,500	0.91	C	0.2	6,800	0.73	B	0.3	
GGT Ferry	800	0.57	B	1,500	0.38	A	0.2	1,100	0.28	A	0.3	
Tiburon Ferry	200	0.40	A	300	0.60	B	0.2	200	0.40	A	0.3	
SamTrans	1,900	1.12	D	3,100	1.19	D	0.2	2,300	0.88	C	0.3	
CalTrain (SPRR)	3,100	0.61	B	4,900	0.79	C	0.2	3,800	0.61	B	0.3	
P.M. Peak Period												
Muni												
Northeast	12,600	1.06	D	15,500	0.95	C	0.2	15,200	0.93	C	0.2	
Northwest	13,100	1.13	D	15,300	1.05	D	0.4	20,600	1.41	E	0.3	
Southwest	23,300	1.31	E	28,700	1.29	E	0.2	29,800	1.34	E	0.2	
Southeast	9,100	1.00	C	12,100	0.88	C	0.1	11,000	0.80	C	0.1	
BART												
Transbay	25,800	1.54	F	44,100	1.40	E	0.2	35,200	1.12	D	0.3	
Westbay	11,300	0.80	C	14,600	0.77	C	0.2	15,400	0.81	C	0.2	
AC Transit	14,000	0.95	C	17,000	1.16	D	0.2	17,500	1.19	D	0.2	
GGT Bus	7,600	0.90	C	12,200	0.81	C	0.2	10,000	0.67	B	0.3	
GGT Ferry	1,000	0.56	B	1,700	0.33	A	0.2	1,500	0.29	A	0.3	
Tiburon Ferry	300	0.60	B	500	1.00	C	0.2	400	0.80	C	0.3	
SamTrans	2,900	1.12	D	4,500	1.15	D	0.2	3,600	0.92	C	0.3	
CalTrain (SPRR)	4,500	0.68	B	6,200	0.77	C	0.2	5,500	0.68	B	0.2	

/a/ Passengers per Seat is the ratio of total demand to seated capacity.

/b/ Level Of Service is scale ranging from A to F that relates P/S ratios to passenger loading conditions on transit vehicles (see Table C-1, Appendix C).

/c/ The percent of demand generated by the project.

SOURCE: Environmental Science Associates, Inc.

thus the bus transit Level of Service scale is applicable to BART. Level of Service F ("crush" or "jammed" loadings) on BART is in the range of 1.5 to 1.8 passengers per seat. Because BART operates on a centrally controlled system, the "crush" loadings would not increase passenger loading times (which causes deterioration of service) as would be the case on a bus transit system; rather, the effects of "crush" loadings on BART would be reflected in increased passenger discomfort.

The rail transit Level of Service scale is based on typical light rail transit systems for which total capacity is about 2.0 to 2.2 times seated capacity. The rail transit Level of Service scale would be applicable to Muni Metro, which provides about 50% of the seated capacity to the Southwest corridor. Because Metro vehicles can accommodate higher loadings (a ratio of 2.0 passengers per seat) than buses or trolleys (a 1.5 ratio), the Level of Service would be somewhat better than shown in Table 3. An exact estimate of Metro loadings is not possible without analysis of the Metro service separate from the remainder of Muni service to the Southwest; such analysis would be beyond the ability of the travel demand analysis to predict accurately over time, as discussed in the following paragraphs.

With regard to the Muni data presented in Table 3, the Muni routes have been aggregated on a corridor basis and thus include two-directional travel on some routes that serve the Northeast and Southeast corridors. The Muni numbers cannot be added over the corridors to get a total for the system. Neither can capacity be shifted from one corridor to another. For instance, capacity in the Northeast corridor depends, in large part, on capacity that serves the Southeast portion of the City. The 15, 19, 25, 30, 30X, 30AX, 30BX, 32, 41, 42, and 47 lines pass through the downtown in two directions. Service on the above lines is interdependent. Thus, increases or decreases in capacity on one of the above lines directly affect service in the opposite direction. Service to the Northeast and Northwest corridors is also interconnected, as lines serving the Northwest must pass through the Northeast corridor, and thus serve both areas. Muni ridership and capacity have been apportioned between both areas.

Passengers-per-seat ratios are only one measure of adequacy of service. The constraints of operating on heavily used streets in and around the downtown cause transit-vehicle bunching, loss of running time and missed schedules, all of which reduce service, reliability, and ultimately, capacity. In some respects, this would not be evident from simple quantitative analysis. In addition to these inefficiencies inherent within the transportation system, there are other factors which would affect overall transit capacities. These include variability in daily and seasonal ridership for which an absolute capacity must be available, as well as transit riders who remain uncounted because their transit trips both start and end beyond the screenlines used in this analysis. Daily fluctuations in fleet availability also affect system capacity.

Further, policy considerations dictate minimum operating conditions on certain lines; minimum headways that have been established to maintain transit access to areas served by those lines are not warranted on the basis of ridership alone. When averaged together, the ridership data from these lines may slightly distort overall ridership conditions.

P.M. peak-period conditions on transit in 1984 were found to be equivalent to or better than peak-hour conditions. In some cases, where demand remains at peak-hour levels during the two-hour period, the passengers-per-seat ratios in the two-hour period are higher than in the one-hour period. This anomaly is the result of transit agencies' providing express (or additional) service during the peak hour, but not during the entire peak period. An example of this type of operation may be seen on BART, where three extra trains operate in transbay service in the peak hour but not in the rest of the peak period. Another factor involved is the distribution of demand (ridership) at uniformly high levels over the peak-period.

Both transit demand and capacity have been assumed to increase during the period 1984 to 2000. The discussions of transit capacity increases for the agencies are based on the Five-Year Plans and Capital Improvement Plans of the various transit agencies; they appear in Appendix J of the Downtown Plan EIR, pp. J.25-J.26. This material, which is discussed below and summarized in Table 3, is incorporated by reference. The future capacities were developed

by applying percentage increases, expected in the future, to observed existing capacity. Thus, to the extent that the existing conditions contain inherent capacity reduction for missed runs, the future capacity projections have taken into account the inability of the transit systems to provide 100% of scheduled capacity. As noted above, the Muni analysis calculates capacity on the basis of all runs leaving the C-3 District in the p.m. peak. For all of the transit analyses, only peak-direction vehicles are counted.

Future transit demand and loadings for the Downtown Plan in the year 2000 and for 1984-plus-the-Cumulative-List condition are shown in Table 3 for both the peak hour and the peak period. The total transit demand from the project would represent about 0.2% of the total travel demand on the transit carriers in the year 2000.

Peak-hour transit demand on Muni in the year 2000 would increase about 25% over 1984 levels in the Northeast, Northwest and Southwest corridors. Muni demand in the Southeast corridor would increase about 40% between 1984 and 2000. Peak-hour demand on the other agencies would increase between 30% and 70% during the period 1984 to 2000.

Peak-period increases in demand would be between 15% and 70% from 1984 to 2000. Overall peak-period transit travel would be expected to increase about 30% between 1984 and 2000. Peak-hour and peak-period passenger loadings would be worse than in 1984, although most systems would operate in acceptable conditions (Level of Service D or better). However, BART Transbay and Muni to the Southwest would be in Level of Service E during the peak hour and the peak period.

Although the data in Table 3 are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. As shown in Table 2, total transit demand under Alternative 1 would be about 12% higher than under the Downtown Plan while transit demand from Alternative 4 would be about 9% lower than the Plan. As noted previously, these differences would not be statistically significant. In terms of Level of Service, the Downtown Plan would be equivalent to the five Alternatives.

It is important to note that the Five-Year Plan improvements for the transit systems are designed both to provide for future demand increases, and to improve service levels from existing conditions. For new vehicles to expand system capacity rather than represent replacement on a one-to-one basis, operating revenues would similarly need to be increased. During the year 2000 peak hour, Muni service to the Southwest would exceed the desirable passengers per seat ratio of 1.25./8/ Although the transit demand in the corridor in excess of the desirable loading would be able to be accommodated under crowded conditions and thus would not be excess demand (that is, not beyond capacity), demand in excess of the desirable loading would mean that additional transit service (beyond that assumed to occur by 2000) would need to be provided to allow transit operations in the corridor to meet the goals set by Muni. To meet the goal of 1.25 passengers per seat in the peak hour, Muni would have to increase service by about 14% in the Southwest corridor over the amount of service assumed to occur in 2000.

If transit service were not increased beyond the amounts assumed to occur by the year 2000 in the Downtown Plan EIR, transit operations (in terms of passenger comfort) would be slightly better than 1984 conditions. Peak-hour and peak-period passengers-per-seat ratios would be lower than 1984 ratios even though service (in some corridors) has been assumed to increase as much as 80% between 1984 and 2000.

If the Downtown Plan's Goals regarding increased transit use were achieved, and the proposals in the Plan regarding transit service improvements were to be fully developed and in place, the impacts on transit agencies would be less than described above. If the Goals were achieved, transit agencies would experience greater levels of demand than under this analysis but overall passenger loadings would be lower (and within desirable levels) because of increased transit service availability that would come about if the proposals stated in the Plan are developed. Section VI., Mitigation, contains measures that would provide the additional transit service required to mitigate the above impacts.

Also shown in Table 3 is an independent analysis of the conditions that would result from adding the travel from the Cumulative List to the 1984 base data, as is specified in the Transportation Guidelines. As noted above, the estimates calculated by adding the travel from the Cumulative List to the 1984 base data are not specifically comparable to those from the Downtown Plan EIR method. The project travel would represent about 0.3% of the total travel on transit in the 1984-plus-the-Cumulative-List condition. As noted above, the List-based analysis overestimates the component of travel from San Francisco, as is shown in Table 3 by higher P/S ratios for Muni in the Northwest and Southwest corridors and lower P/S ratios for BART transbay, SamTrans, and CalTrain than under the Downtown Plan EIR method. Under the 1984-plus-the-Cumulative-List conditions, Muni would not meet its service goals in the Northwest and Southwest corridors; this would require additional service increases of 27% and 20%, respectively, to meet Muni's goal of 1.25 passengers per seat in the peak hour. The other transit agencies would meet their service goals under these conditions.

PEDESTRIAN MOVEMENTS

The building's main pedestrian entry fronts an arcade with Mission and Spear Street access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the inter-block walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street.

The project at full occupancy would generate about 170 pedestrian pte during the noon 15-minute period, and about 120 pedestrian pte during the p.m. peak 15-minute period.

Operating conditions on sidewalks and crosswalks have been categorized into a Pedestrian Flow Regimen, which relates density of pedestrians in a specific time period (pedestrians per foot of clear sidewalk width per minute) to quality of pedestrian flow (the difficulty of maintaining walking paths and speeds on a sidewalk).^{9/} Table C-2, Appendix C of this report, shows the relationships among flow rates, walking speed, path choice, and interactions between pedestrians for each flow regime. Figure C-2, Appendix C of this report, shows photographs of sidewalk conditions for each flow regime.

Typically, an upper limit for desirable conditions is 14 pedestrians per foot per minute (p/f/m), defined as crowded; conditions as high as 18 p/f/m, a congested condition, are possible, with some conflicts among pedestrians./9/

Table 4 compares the existing (1984) pedestrian flows with the predicted pedestrian volumes on Mission St. at the intersection with Spear St. in the year 2000. Pedestrian volumes were estimated for four sidewalks and two crosswalks in the project vicinity. These include: Mission St. sidewalk adjacent to the project (Mission sidewalk, south side), Mission St. sidewalk across Mission St. opposite the project (Mission sidewalk, north side), crosswalk across Mission St., sidewalk on Spear St. adjacent to the project (Spear sidewalk, southwest corner), Spear St. sidewalk north of Mission St. (Spear sidewalk, northwest corner), and crosswalk across Spear St. (See Figure 15, page 44 of the FEIR.)

Area crosswalks and sidewalks currently operate in Unimpeded to Impeded conditions during the noon 15-minute period, and Open to Unimpeded conditions in the 15-minute p.m. peak period.

Sidewalk and crosswalk operations in the year 2000 would remain unchanged during the noon peak, but would shift from Open and Unimpeded to Unimpeded and Impeded conditions during the p.m. peak. During the noon peak, the project pedestrian traffic would represent about 6% of the pedestrian volumes on the Mission St. north side sidewalk, 11% of the pedestrian flow on the Mission St. south side sidewalk, 7% on the Spear St. sidewalk, northwest corner, and 11% of the Mission St. crosswalk.

During the p.m. peak, project pedestrian flows would represent 20% of the Mission St. sidewalk south side, 18% of the Spear St. sidewalk southwest corner, 33% of the Mission St. crosswalk, and 29% of the Spear St. crosswalk.

Although the data in Table 4 are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. Pedestrian travel demand, although not shown in Table 2, is closely related to total travel demand because the majority of trips on the primary modes shown in Table 2 begin or end as pedestrian trips at a building. Total travel demand for Alternative 1 would be about 17% higher than that under the Downtown Plan, while that under Alternative 4 would be about 5% lower than that under the Plan. The range among the Alternatives would not change the flow regimen shown in Table 4.

Also shown in Table 4 are the results of adding travel from the Cumulative List to the 1984 base data. Because the List has less overall space proposed than has been estimated to be available by the year 2000 under the Downtown Plan or the five Alternatives, the 1984 plus Cumulative List pedestrian volumes would be lower than those for the year 2000.

Under the list-based analysis, conditions on the area sidewalks and crosswalks would remain the same as under current conditions with one exception. The Spear St. crosswalk would shift from Open to Unimpeded conditions during the p.m. peak. During the noon peak, project pedestrian flows would represent about 7% of the pedestrian volumes on the Mission St. north side sidewalk, 13% on the Mission St. south side sidewalk, 8% of the Spear St. northwest corner sidewalk, and 13% of the Mission St. crosswalk.

During the p.m. peak, project pedestrian flows would represent 25% of the Mission St. south side sidewalk, 20% of the Spear St. southwest corner sidewalk, 37% of the Mission St. crosswalk, and 33% of the Spear St. crosswalk.

TABLE 4: PEAK PEDESTRIAN VOLUMES AND FLOW REGIMEN

	1984		2000			1984 + CUMULATIVE LIST		
	p/f/m/a/	Flow Regimen/b/	p/f/m	Flow Regimen	Project Percent	p/f/m	Flow Regimen	Project Percent
- Mission Sidewalk (north side)	2.6	Impeded	3.6	Impeded	6%	3.1	Impeded	7%
- Mission Sidewalk (south side)	1.2	Unimpeded	1.8	Unimpeded	11%	1.5	Unimpeded	13%
- Spear Sidewalk (northwest corner)	1.1	Unimpeded	1.5	Unimpeded	7%	1.3	Unimpeded	8%
- Mission Crosswalk	1.3	Unimpeded	1.9	Unimpeded	11%	1.6	Unimpeded	13%
<u>P.M. PEAK/c/</u>								
- Mission Sidewalk (south side)	0.3	Open	0.5	Unimpeded	20%	0.4	Open	25%
- Spear Sidewalk (southwest corner)	1.4	Unimpeded	2.2	Impeded	18%	2.0	Unimpeded	20%
- Mission Crosswalk	1.1	Unimpeded	2.1	Impeded	33%	1.9	Unimpeded	37%
- Spear Crosswalk	0.4	Open	0.7	Unimpeded	29%	0.6	Unimpeded	33%

/a/ Pedestrians per foot of effective sidewalk width per Minute

/b/ See Table C-2 and Figure C-2 (Appendix C) for descriptions of pedestrian flow regimen.

/c/ Peak 15-minute periods.

/d/ All sidewalk segments are along project frontage.

SOURCE: EIP Corp.

TRAFFIC

The analysis of traffic impacts has been conducted on two levels; one level of analysis considered impacts at the regional screenlines, the second level of analysis considered impacts at intersections in and near the downtown.

Regional Freeway Analysis

Analysis of traffic conditions at the regional screenlines has been conducted for both the p.m. peak hour and the two-hour p.m. peak period. A.m. peak traffic conditions at the regional screenlines have the effect of metering the amount of traffic that reaches the downtown from outside of the City. This analysis has therefore considered p.m. peak conditions. P.m. conditions are usually most severe on both freeways and streets within San Francisco, whereas a.m. peak conditions are most severe at locations outside of the City.

Traffic demands at the regional screenlines in 1984 (see Table 5) during the p.m. peak hour were found to use between 90% and 100% of the available capacity on the freeways and bridges. Although the eastbound capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour volume shown in Table 5 represents the effective eastbound capacity. The volume figures shown in Table 5 for 1984 for the one-hour and two-hour periods are averages of several days; thus, values for individual days may be different from the average.

Peak-hour freeway operating conditions in 1984 were found to be generally in Level of Service D to E conditions, which would indicate unstable flows in the 35 mph to 45 mph range. Table C-4, Appendix C, shows the Level of Service for freeway operations. Peak-of-the-peak conditions within the peak hour were

TABLE 5: OUTBOUND REGIONAL AUTO DEMAND

Regional Auto Corridor	1984		2000		1984 + CUMULATIVE LIST	
	Capacity/a/	Volume/b/	Demand	Project Percent	Demand	Project Percent
<u>P.M. Peak Hour</u>						
Bay Bridge (I-80)	9,000	8,540	9,790	0.1	9,480	0.1
Golden Gate Bridge (US-101)	7,200	6,740	7,150	0.1	7,100	0.1
US-101 (south of Harney Way)	8,000	7,390	8,400	0.1	7,800	0.1
I-280 (between Alemany Blvd. and San Jose Avenue)	8,000	7,610	8,650	0.1	8,020	0.1
<u>P.M. Peak Period</u>						
Bay Bridge (I-80)	18,000	17,880	19,330	0.1	18,460	0.1
Golden Gate Bridge (US-101)	14,400	13,870	14,850	0.1	15,380	0.1
US-101 (south of Harney Way)	16,000	14,200	16,530	0.1	14,870	0.1
I-280 (between Alemany Blvd. and San Jose Avenue)	16,000	13,620	15,890	0.1	17,290	0.1

/a/ Although the capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour demand shown above represents the effective capacity.

/b/ The volumes for 1984 for the one-hour and two-hour periods are averages of several days and, thus, values for individual days may be different than the average.

SOURCE: Environmental Science Associates, Inc.

found to be worse than the hourly conditions because of surges in traffic demand during the peak hour. Conditions during the peak-period at the screenlines were found to be similar to those experienced during the peak-hour.

As shown in Table 5, demand during the peak hour in the East Bay and Peninsula corridors would be expected to increase about 15% between 1984 and 2000. Peak-hour demand in the North Bay corridor would increase by about six percent between 1984 and 2000. The project travel demand, about 80 p.m. peak-hour and 120 p.m. peak-period outbound vehicle trip-ends, would represent about 0.1% of the total demand in each corridor in the year 2000. Both the East Bay and Peninsula corridors would have excess peak-hour demand that would not be met during the peak period./10/ The North Bay corridor would have excess demand in the peak period. Excess auto demand would result in either a spreading of the demand into the hours adjacent to the peak period or in increased transit and ridesharing use should additional transit service (beyond that assumed to occur by the year 2000) or ridesharing incentives be provided.

Operating conditions at the regional screenlines would be at or near capacity in Level of Service E. Traffic flow conditions would be expected to be very unstable and could experience temporary flow interruptions throughout the peak-period. Peak-of-the-peak conditions would be prevalent during the peak hour and might extend into the peak period. The overall two-hour commute period would not be expected to increase substantially in the future. Rather, the occurrence of peak-of-the-peak conditions, now less than one hour, would most likely expand to fill the one-hour peak.

As shown in Table 5, the list-based cumulative analysis, while not comparable to the year 2000 data, produces similar estimates of future demand. The results reflect the tendency of the list-based method to overestimate regional auto travel. The project would represent about 0.1% of the regional auto demand in this condition. The Bay Bridge and I-280 would have excess demand during the peak hour; the Bay Bridge, the Golden Gate Bridge, and I-280 would have excess demand during the peak period. The same conclusions noted above regarding future operating conditions would apply to this condition as well.

Intersection Analysis

The streets that serve the project as feeders to or from freeway ramps are points of maximum automobile traffic congestion in the Financial and Downtown Districts. Conditions on these streets were assumed to represent the "worst case" or greatest traffic impacts of the project.

Impacts from the project on other streets would be less, because project traffic on them would be more dispersed. Routes of drivers going to garages were assumed to be sufficiently dispersed so that they would have no measurable effect on traffic volumes on the streets adjacent to the project. Project impacts at the intersections closest to the project site would result primarily from service-vehicle and pedestrian traffic. The traffic volumes from the project would not be detectable against the background of future traffic growth from development in the downtown at the intersections adjacent to the project.

● Traffic operations at intersections near freeway ramps serving the project site vicinity are shown in Table 6. The traffic from the project would be expected to use the intersections of Mission and Beale Sts. and at First and Harrison Sts. in preference to the intersection at Clay and Battery Sts. The intersection of Battery and Clay Streets has Level of Service C conditions during the p.m. peak hour, while the intersections of Mission and Beale Sts. and First and Harrison Sts. are at Level of Service E and F, respectively. Level of Service descriptions are shown in Table C-3, Appendix C.

Peak-hour conditions would be expected to deteriorate at all of the intersections by the year 2000. Expanded areas of traffic congestion would disrupt surface Muni operations. If the mitigation measures for transportation are implemented, the intersection operating conditions would be improved.

As shown in Table 6, the list-based analysis yields worse Level of Service intersection conditions than those for the year 2000. While similar to the results of the Downtown Plan EIR results, the list-based results are not comparable for the reasons stated above, particularly because the list-based analysis overestimates auto use through the assumption of an unchanging modal split.

Although the traffic data shown in Table 5 and used to calculate the v/c ratios in Table 6 are calculated on the basis of projections for the Downtown Plan, similar traffic data would be expected under the five Alternatives in the Downtown Plan EIR. As shown in Table 2, regional traffic demand under Alternative 1 would be about 34% higher than under the Downtown Plan while regional traffic demand from Alternative 4 would be about 13% lower than under the Plan. In terms of Level of Service, the Alternatives would be equivalent to the Downtown Plan.

TABLE 6: PROJECTED PEAK-HOUR INTERSECTION VOLUME-TO-CAPACITY RATIOS (V/C) AND LEVELS OF SERVICE (LOS)/a/

<u>Intersection</u>	<u>1984</u>		<u>2000</u>		<u>1984 + CUMULATIVE LIST</u>	
	<u>V/C</u>	<u>LOS</u>	<u>V/C</u>	<u>LOS</u>	<u>V/C</u>	<u>LOS</u>
Battery & Clay Sts.	0.74	C	0.81	D	0.83	D
Mission & Beale Sts.	0.92	E	1.05	F	1.10	F
First & Harrison Sts.	1.11	F	1.34	F	1.35	F

/a/ Level of Service descriptions and relationship to V/C ratios are shown in Table C-3, Appendix C of this report.

SOURCE: Environmental Science Associates, Inc.

PARKING

The estimated parking demand (both long-term and short-term) from the C-3 District in 1984 was found to be about 45,300 spaces, which would occupy about 94% of the 48,000 parking spaces in and near the C-3 District./11/ The short-term parking demand, while representing about 25% of the equivalent daily demand, is about 65% of the daily vehicle travel. Although the equivalent daily demand would leave about 10% of the parking supply vacant, surges in short-term demand (more travel in one period than in another period) can cause temporary localized overloads of parking facilities within various portions of the downtown, even though parking may be available elsewhere in the downtown.

The project would not provide parking and would not displace any parking.

At full occupancy, the project would create a long-term parking demand of 170 spaces and demand for 10 short-term spaces, for a total demand of about 180 equivalent daily spaces. There would be an on-site deficit of about 180 spaces.

The C-3 District would generate demand for approximately 58,000 equivalent daily parking spaces in the year 2000 under the Downtown Plan, an increase of 28% from 1984. Short-term demand would continue to represent about 25% of the total demand. The project parking demand would represent about 0.4% of the total demand from the C-3 District. The parking supply has been assumed to be about 51,000 spaces. There would be a parking deficit of about 7,000 spaces in the year 2000 if vehicular demand occurs as projected. However, as shown in Table 5, the analysis for the year 2000 forecasts excess auto demand in the peak hour and the peak period. If the excess demand is accommodated on transit or ridesharing, then the overall parking demand would decrease from the above estimate by about 2,300 spaces. If the Goals of the Downtown Plan are met, total parking demand in the year 2000 would be about 48,100 equivalent daily spaces, an increase of six percent over 1984. If the Goals were achieved, there would not be a parking deficit.

The list-based analysis shows future demand for 11,400 spaces from projects in the C-3 District, which, when added to the 1984 data, would be a total demand of 56,700 spaces. The project parking demand would represent about 0.3% of the total demand. While similar to the 58,000 space (unmitigated) demand for the year 2000, the list-based demand is not comparable for the reasons stated above, in particular because the list-based analysis assumes a static modal split and thus overestimates future auto demand.

Although the parking demands discussed above are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. Although not shown in Table 2, parking demand from the C-3 District under Alternative 1 would be about 4% higher than under the Downtown Plan, while that under Alternative 4 would be about 1% lower than that under the Plan.

NOTES - Transportation

/1/ San Francisco Department of City Planning, Transportation Guidelines for Environmental Impact Review: Transportation Impacts, September 1983. This document describes the procedure used to calculate travel demand from the project. Trip generation rates of 18.1 person trip-ends (pte) per 1,000 gross sq. ft. (gsf) of office space, and 150 pte per 1,000 gsf of retail space were used to generate travel from the project. The trip generation rates are for independent land uses. When used to generate travel from more than one land use on the same site the rates may overestimate total travel to the site since a portion of the travel from each of the land uses may occur between land uses on the site and not leave the site. Such trips are referred to as "linked trips." On the basis of the data contained in the March 10, 1984 Cumulative List, the trip generation calculation for the project is as follows:
 $219,350 \text{ gsf office} \times 0.0181 \text{ pte/gsf} = 3,970 \text{ pte per day}$. The September 1983 Transportation Guidelines are on file and available for public review at the Office of Environmental Review, 450 McAllister Street, Fifth Floor.

/2/ The percentage of travel occurring in the peak period and the peak hour are from the Transportation Guidelines (see Note /1/). Total travel during each of the periods has been adjusted to show only outbound (leaving the downtown area) travel. The outbound travel consists of all of the work-related travel and half of the other (non-work) travel from the office and retail portions of the project.

/3/ San Francisco Department of City Planning, Office of Environmental Review, Environmental Impact Report for The Downtown Plan, EE81.3, March 16, 1984. This document is an analysis of projected growth in the C-3 District to the year 2000 under the Downtown Plan and five alternatives. The transportation analysis in the Downtown Plan EIR includes projections of future modal splits for work and other (non-work) travel for the p.m. peak period, p.m. peak hour, and daily time periods. That document is on file with and available for public review at the Department of City Planning, 450 McAllister Street, Fifth Floor.

/4/ The Downtown Plan EIR contains about 50 pages of text devoted to the description of transportation impacts in the greater downtown area, as well as an additional 30 pages of text describing transportation mitigation measures. The information in this Supplemental EIR is not intended to be a comprehensive summary of the transportation analysis in the Downtown Plan EIR, but rather summarizes portions relevant to the project and its contribution to cumulative impacts. For details and assumptions used to arrive at the data and results presented in the Downtown Plan EIR, see Section IV.E, Transportation Setting and Impact, Section V.E, Transportation Mitigation, and Appendix J, Transportation and Circulation Analyses and Methodologies, of the Downtown Plan EIR, which are incorporated by reference into this report and summarized in the text as appropriate.

V. Environmental Impacts

/5/ Data are from Traffic Survey Series A-48 and MA-60, Spring 1977 and Spring 1983, Metropolitan Transportation Commission.

/6/ The analysis of historic trends in travel patterns is from the following sources: Metropolitan Transportation Commission, Travel Observations of the Bay Bridge Corridor, October 21, 1981. Homburger and Dock, Trends in Traffic Patterns at the Bay Bridge and Caldecott Tunnel, U.S. Department of Transportation, DOT-BIP-WP-32-3-77, July 1977; telephone survey of 500 drivers conducted in April 1980 by Golden Gate Transit, data supplied by Alan Zahradnik, Transportation Planner, on February 16, 1983; Office of the Auditor-Controller, Comparative Record of Traffic for the Month of November, May 27, 1937 through November 30, 1982, Golden Gate Bridge, Highway and Transportation District; San Francisco Municipal Railway Planning Division, Projections of Future Muni Demand and Vehicle Requirements, October 1982; San Mateo County Transit District, SamTrans Five-Year Transportation Development Plan: 1983-1988, April 1983; California Department of Transportation, Caltrain Caltrans/Southern Pacific Peninsula Train Service Five-Year Plan 1983-1988, July 1983; and traffic volume counts from San Francisco Department of Public Works, Bureau of Engineering, Division of Traffic Engineering and from 1983 San Francisco Cordon Count, JHK and Associates, July 1983.

/7/ See Downtown Plan EIR, pp. II.9-II.11, for a comparison of the cumulative list projections with those of the Downtown Plan EIR.

/8/ San Francisco Municipal Railway, Short-Range Transit Plan 1983-1988, July 1983. Bay Area Rapid Transit District, Short Range Transit Plan for the Five-Year Period July 1983 Through June 1988, August 1983.

/9/ Pushkarev and Zupan, Urban Space for Pedestrians, MIT Press, 1975, p. 85-117.

/10/ Table IV.E.4, p. IV.E.36, of the Downtown Plan EIR contains a discussion of the implications of excess demand at the regional screenlines.

/11/ The parking survey data and other supporting calculations and data used in the Downtown Plan EIR transportation impact analysis are on file and available for public review at the Office of Environmental Review, Department of City Planning, 450 McAllister Street, Fifth Floor.

C. AIR QUALITY

(The following material replaces "2. Air Quality" in the FEIR, pp. 79-82.)

Upon completion, the project would affect air quality in two ways: emissions would be generated by project-related traffic and by combustion of natural gas for space and water heating. Transportation sources would account for over 95% of project-related emissions. Projected daily emissions of pollutants in 1990 from project-generated traffic, and from cumulative development traffic, based on the March 10, 1984 list of Cumulative Office Development in Downtown San Francisco, are shown in Table 7. These emissions are also compared in the table to emissions projected for C-3 District development by the Downtown Plan EIR, and to total emissions projected for the entire Bay Area by the 1982 Bay Area Air Quality Plan. The project would contribute about 0.6% to the total amount of air pollution generated by cumulative list projects.

TABLE 7: PROJECTED DAILY POLLUTANT EMISSIONS

Pollutant	Project 1990	Cumulative List 1990/b/	Emissions (tons per day) /a/			
			Downtown Plan/c/		Bay Area/d/	
			1990	2000	1990	2000
Carbon Monoxide	.096	17.0	6.8	6.6	1,952	1,883
Hydrocarbons	.008	1.4	0.6	0.6	428	428
Nitrogen Oxides	.010	1.8	0.8	0.8	558	610
Sulfur Oxides	.001	0.2	0.1	0.1	194	233
Particulates	.014	2.7	1.1	1.3	562	649

/a/ Project, Cumulative List, and Downtown Plan emissions calculated using BAAQMD, EMFAC6C vehicular emission factors. Emissions of CO, HC, and NO_x include an assumed six minutes of idling time per vehicle trip. Emissions of TSP include dust entrained from roadway surfaces.

/b/ Incremental emissions of downtown-area development based on list of projected Cumulative Office Development in Downtown San Francisco as of March 10, 1984 (see Appendix B, Table B-2 of this report).

/c/ Incremental emissions of C-3 District development, per Downtown Plan EIR, Table IV.I.2, p. IV.I.12.

/d/ Accumulative total emissions of Bay Area development, per ABAG, BAAQMD, MTC, 1982 Bay Area Air Quality Plan, pp. 42, 53, and 112.

Source: Environmental Science Associates, Inc.

Motor vehicle trips associated with downtown development would emit more nitrogen oxides (NO_x) than hydrocarbons (HC), both of which are chemical precursors of ozone, while emissions from building natural gas combustion would consist primarily of NO_x. On the basis of the LIRAQ ozone simulations conducted for the 1982 Bay Area Air Quality Plan, NO_x emissions in excess of HC emissions could lead to a slight decrease in peak ozone concentrations in the Bay Area. This relationship between NO_x and HC emissions would hold both under the cumulative list scenario and the Downtown Plan scenario shown in the table. Thus, emissions of HC and NO_x generated by the project and by cumulative development would not increase the Bay Area ozone concentrations which would otherwise occur.

It is possible, however, that excess NO_x emissions could increase ozone and/or nitrogenous oxidant concentrations further downwind, outside the Bay Area. In addition, incremental NO_x emissions generated by the project and by cumulative development could lead to violations of the NO₂ standard with concomitant health effects; could reduce visibility; or (to a relatively small extent due to the small magnitude of the increase and to dilution over time and distance) could increase acid rain further downwind, outside the Bay Area.

CO concentrations are predicted to be less in 1990 and subsequent years than shown for 1984. In 1990 traffic volumes in the downtown area would increase by about 8%, area-wide, over 1984 volumes. However, in 1990 the average vehicle is expected to emit 32% less CO than in 1984 due to ongoing state and federal emissions controls. The projected effects of state and federal emission controls on new vehicles (and the retirement of older, polluting vehicles) would more than offset the increases in traffic volumes and traffic congestion.

Curbside CO concentrations at selected intersections affected by project-generated traffic, and by cumulative development traffic (based on the March 10, 1984 cumulative list), were projected for worst-case conditions (poor dispersion meteorology), and are compared with the ambient standards in Table 8. These concentrations are also compared in the table to concentrations projected for C-3 District development by the Downtown Plan EIR. The results indicate that the state and federal 8 hour average CO standards, set at 9 ppm, are

currently violated at Mission/Beale and Clay/Battery. No excesses of the applicable CO standards are projected for any of the three locations analyzed for 1990 or 2000. The proposed project would contribute less than 1% to the overall CO concentrations at these intersections.

● TABLE 8: PROJECTED WORST-CASE CURBSIDE CARBON MONOXIDE CONCENTRATIONS

Intersection	Averaging Time	Concentrations (ppm) ¹			
		1984	Cumulative List 1990 ²	Downtown Plan ³	
				1990	2000
Mission/Beale	1-hour	13.4	10.3	10.1	8.6
	8-hour	9.8	7.9	7.5	7.0
Clay/Battery	1-hour	13.0	10.1	10.0	9.2
	8-hour	10.3	8.1	7.9	7.1
First/Harrison	1-hour	10.9	8.7	8.5	8.1
	8-hour	8.4	6.6	6.5	6.1

- /1/ Calculations for all four scenarios were made for worst-case (poor dispersion) meteorology, using the modified linear rollback method. Background concentrations were calculated to be 7.4 ppm for one hour and 5.7 ppm for eight hours in 1984, 6.0 ppm for one hour and 4.5 ppm for eight hours in 1990 and 5.7 ppm for one hour and 4.1 ppm for eight hours in 2000. No excesses of ambient standards are projected to occur in 1990 or 2000. The one-hour state standard is 20 ppm, the one-hour federal standard is 35 ppm, and the eight-hour state and federal standard is 9 ppm.
- /2/ Based on list of projected Cumulative Office Development in Downtown San Francisco as of March 10, 1984.
- /3/ Based on growth projection methodology contained in Downtown Plan EIR, Table IV.I.3, page IV.I.16, as revised in the Summary of Comments and Responses, Section I, particularly pp. C&R-I.3-8.

Source: EIP Corporation and Environmental Science Associates

Emissions of TSP generated by the project and by cumulative development would increase TSP concentrations, which could increase the frequency of TSP standard violations in San Francisco, with concomitant health effects and reduced visibility.

Emissions of SO_x generated by the project and by cumulative development would probably not bring San Francisco's SO₂ concentrations significantly closer to violating the standard.

The project, and other downtown development on the cumulative list or under the Downtown Plan, would not directly conflict with the pollution reduction strategies recommended by the 1982 Bay Area Air Quality Plan. These strategies consist primarily of HC and CO emission controls on stationary sources and motor vehicles, and transportation improvements, and are aimed at attaining the federal ozone and CO standards. In addition, emissions associated with the project and with other downtown development are not projected by this EIR or by the Downtown Plan EIR to increase ozone concentrations or to result in violations of CO standards, and thus would not indirectly conflict with the objectives of the 1982 Bay Area Air Quality Plan.

Alternative 1 to the Downtown Plan (covered in the Downtown Plan EIR) would generate about 38% more emissions in 2000 (from development between 1990 and 2000) than would the Downtown Plan. Alternative 4 would generate about 7% less emissions than would the Downtown Plan. Emissions generated by Alternatives 2, 3, and 5 would fall within this range. The types of air quality impacts under these alternatives would be the same as those under the Downtown Plan; their magnitudes would vary in proportion to their differences in emissions.

The pollutant emissions and CO concentrations shown in Tables 7 and 8 were projected for 1990 on the basis of two different sets of future growth assumptions, with differing results. In one case, a list of specific projects proposed, approved, and under construction was used (the list of Cumulative Office Development in Downtown San Francisco, March 10, 1984). In the other case, the employment growth trend approach of the Downtown Plan EIR was used, and those projections presented. In both cases, the method for the air

quality analyses was identical. However, the results using projected cumulative development are not directly comparable with those from the Downtown Plan EIR for several reasons:

First, it is reasonable to assume that the projected cumulative development on the list would be completed and occupied sometime between 1990 and 2000, rather than in either of those two analysis years which were used in the Downtown Plan EIR. The pollutant emissions and CO concentrations were calculated for 1990 using the cumulative list, even though those projects are not expected to be completed until the mid-1990's, in order to provide the possibility of some comparison with the Downtown Plan EIR results. However, this has the effect of artificially increasing the cumulative list results, because average-vehicle emission rates will decline with time, as a result of federal and state controls.

Second, the transportation analysis used for the Downtown Plan EIR differs from that used for the cumulative list, as described in the previous Transportation section of this report. Briefly, these differences include the fact that a cumulative list-based analysis assumes that the same proportion of new employees would commute by private auto as is currently the case. In contrast, the Downtown Plan EIR analysis projects a shift of commuters from driving alone to carpool and transit, because commute routes such as the Bay Bridge are already at or near capacity and could not accommodate all of the vehicles that would be used if the proportion of persons driving alone to work remained constant.

Other reasons for the differences include the use in the cumulative list analysis of a constant regional distribution of trips, whereas the Downtown Plan EIR forecasts a declining percentage of new employees residing in San Francisco, and the lack in the cumulative list approach of discounting factors to account for trips between individual projects within the Downtown.

Thus, total (regional) vehicle-miles-travelled and the resulting pollutant emissions projected using the cumulative list approach are considered artificially high. On a local intersection basis, traffic volumes and the

resulting CO concentrations might or might not be higher with the cumulative list approach, depending on the particular location. This is because the cumulative list method does not distribute traffic on all the same streets in the same proportions as does the Downtown Plan EIR method.

D. ENERGY

The Department of City Planning predicts future electricity consumption, based on the electricity use of 18 recently constructed buildings in the downtown area, to be about 18 kWh per square foot per year./1/ This number includes an estimate of the base power consumption of the building core, such as air circulation, cooling, mechanical and lighting loads, as well as electricity demands due to increased use of electronic office machines including copiers, computers and word processors, which are generally in operation the entire work day. Yearly estimated electrical consumption for the projected 19 million square feet of additional office space in downtown San Francisco would be approximately 340 million kWh of energy per year, using the list of Cumulative Office Development (March 10, 1984, see Appendix B, Table B-2, of this report). Energy used by the project would contribute about 0.9% of the total energy which would be used by cumulative development.

Pacific Gas and Electric Company, in examining its ten-year load growth projections for San Francisco, believes that growth rates of net new office space in the downtown area will diminish in the next decade from the historic figure of 1.5 million square feet per year to between 1 million and 1.2 million square feet per year./2/ The utility company's current analysis of a typical office building yielded an annual consumption of about 17 kWh per square foot. This agrees with the City's estimate (noted above), within the limits of estimation methodology. Using these figures, total increased energy demand for the next decade would be approximately 200 million kWh of electricity per year, less than projected using the cumulative list. The lower PG&E prediction is largely due to its lower estimation of future development.

Projections of energy use discussed in the Downtown Plan EIR indicate an increase of about 210 million kWh of annual electricity consumption between 1984 and 1990 as a result of all new development occurring in the C-3 District. Between 1990 and 2000, annual electrical consumption rates would increase by 330 to 350 million kWh above present figures, or 120 million to 140 million kWh above the increases estimated for the 1984-1990 period./3/Both estimates are for growth that would occur under the Downtown Plan

scenario./4/Electricity requirements for development that would occur with the Alternatives proposed in the Downtown Plan EIR predict an increased annual demand of between 300 million kWh and 500 million kWh between 1984 and 2000./5/

Estimates referred to in the Downtown Plan EIR are not directly comparable to those estimates made by applying a kWh per square foot per year generation factor to the square footage of projected cumulative development (list method) for two reasons. First, the energy projections made using the list method estimate energy demand at the time of full buildout (mid 1990's) rather than during the 1984-1990 and 1990-2000 time periods as in the Downtown Plan EIR. Second, about 75% of the projects on the March 10, 1984 list of projected cumulative development in downtown San Francisco fall within the C-3 District boundary, which means the list method estimates energy consumption for a larger area than the Downtown Plan EIR. The PG&E projection cannot be compared to the projections in the Downtown Plan EIR because they cover different time periods.

Natural gas consumption for new office development would be less than current demands, which include consumption in older, less-energy-efficient buildings. The Department of City Planning estimates that natural gas use by new buildings in the year 2000 would be 11 cubic feet per square foot per year./6/The Department further estimates that, between 1984 and 2000, annual gas consumption will grow by about 470 million cubic feet of which about 210 million cubic feet would be for office uses.

A comparison of the Downtown Plan and PG&E estimates for projected energy demands in downtown San Francisco for the last decade of the century is currently being prepared by PG&E in a report to be released later this year. PG&E plans to meet increased San Francisco energy demands to the year 2000 are discussed on pages IV.G.13-14 of the Downtown Plan EIR, which are hereby incorporated by reference. In summary, that material indicates the demand increases in electricity would be met from nuclear sources, oil and gas facilities, hydroelectric and geothermal facilities, and other sources such as cogeneration, wind and imports. PG&E plans to continue receiving most of its natural gas from Canada and Texas under long-term contracts.

NOTES - Energy

- /1/ Unpublished building energy consumption data supplied by David Rubin, Department of City Planning, January 1984.

This information became available in early 1984 and therefore was not available for use in earlier EIRs.

- /2/ Ken Austin, Commercial-Industrial Marketing Supervisor, Pacific Gas and Electric Company, letter of March 23, 1984. Available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., 5th Floor, San Francisco.

- /3/ The Downtown Plan EIR uses a consumption rate factor of 18 kWh/square foot/year between 1984 and 1990 and 16 kWh/square foot/year from 1990 to 2000. These different factors are due to Title 24 revisions to reduce building energy budgets. These new standards would be reflected by lower electrical consumption in buildings constructed by 1990.

- /4/ Downtown Plan EIR, pp. IV.G.1 - IV.G.17.

- /5/ Ibid., pp. VII.G.1 - VII.G.4.

- /6/ David Rubin, op. cit.

E. RESIDENCE PATTERNS AND HOUSING

Future Residence Patterns for San Francisco

Employment growth and building development in downtown San Francisco will result in more employees working and living in the City. Over time, more existing residents will take San Francisco jobs and others who take San Francisco jobs will move into the City.

- The future residence patterns described below are quantified and provide the basis for the qualitative conclusions about the housing market implications of downtown growth described in the following subsection. Because the residence patterns can be quantified for both cumulative development and for the increment of growth represented by the project, this allows an estimate of the project's contribution to the impacts of cumulative growth.

Downtown Plan Forecast As Cumulative Context

Forecasts of residence patterns in the year 2000 were prepared for the Downtown Plan EIR./1/ These forecasts incorporate future housing, labor force, and employment patterns in San Francisco and throughout the region and consider changing demographic, housing market, and transportation factors.

According to the Downtown Plan forecasts, approximately 189,000 C-3 District workers would be living in San Francisco in 2000. This represents an increase of 30,000 residents employed in the C-3 District over the 159,000 estimated for 1984, a 19 percent increase./2/ Relatively more employed San Franciscans would be employed in the C-3 District. The percentage (employed San Franciscans holding C-3 District jobs) would increase from 45.0 percent in 1984 to 47.5 percent in 2000. Relatively fewer C-3 District jobs would be held by San Franciscans. The percentage (C-3 District jobs held by San Franciscans) would decline from 55.5 percent in 1984 to 50.2 percent in 2000. These changes would be the result of cumulative development and employment growth in the C-3 District between 1984 and 2000.

It is important to understand the difference between the two percentages above. In each case, the same estimate of the number of jobs held by San Francisco residents is compared to an estimate for a larger group: to all employed residents of the City in the first instance and to all C-3 District employment in the second. The percentages are different since the number of employed residents is different from the number of jobs. These percentages both describe the same employment situation, but from different perspectives.

- The percentage of jobs held by City residents is used more often, primarily for transportation analysis. The percentage of City residents who work in downtown San Francisco is used less often. This latter perspective is a more direct measure of the role of downtown jobs in employing San Francisco's residents.

The Downtown Plan forecasts fall within the range of estimates of C-3 District workers living in San Francisco that was identified by the analysis of Alternatives in the Downtown Plan EIR. By 2000, the Alternative forecasts range from 189,000 to 193,000 C-3 District workers living in San Francisco. The relative comparisons described above apply to all the Alternatives; the percentage of total employed San Franciscans working in C-3 District jobs in 2000 would be higher than in 1984, while the percentage of C-3 District jobs held by residents would be lower.

The residence patterns of future occupants of the 101 Mission project can be estimated using information developed in the Downtown Plan analysis. This approach assumes that employment densities for the building and residence patterns for those working in the building would reflect the average conditions for all similar buildings and occupants in the C-3 District in 2000. According to this approach there would be about 330 people employed in the project who would live in San Francisco. The project would account for about 0.2 percent of all San Franciscans employed in the C-3 District in 2000 under the Downtown Plan forecast./3/

Estimates Based On The List Of Office Projects In Downtown San Francisco

An alternative means of evaluating the cumulative effects of projects such as the proposed 101 Mission project is to use the list of all projects that are under construction, approved, or under formal review. (This list is discussed in Appendix B, of this report. The list includes projects throughout the greater downtown, which includes the C-3 District as well as adjacent areas.) It is possible to calculate from the list the change in the number of downtown workers living in San Francisco associated with this amount of development. Adding this number to the 1984 base estimate of downtown workers residing in San Francisco produces an estimate of total downtown workers living in the City, once all projects on the list were built and occupied. The results from this approach indicate that about 230,000 workers in the greater downtown area would live in San Francisco at that time./4/

- This approach uses data from the recent downtown employee surveys (as presented in the 1983 Transportation Guidelines) to estimate the residence patterns of future employees in the buildings on the list. Unlike the Downtown Plan forecast approach, this approach incorporates no changes over time in either employment densities or residence patterns. It assumes that
- current average conditions (reflected in the recent surveys [Transportation Guidelines]) would continue throughout the build-out period for the list.

The project would account for about 0.17 percent of all downtown workers living in San Francisco when all projects on the list were built and occupied. The project would represent a smaller share of future activity in the greater downtown area than of activity in the C-3 District alone.

Differences In Cumulative Approaches

There are several important differences between the two approaches to cumulative analysis: the Downtown Plan approach of forecasting space and employment and the approach of using a list of proposed projects. (A detailed comparison of the two approaches is presented in Section V.A, Introduction to Cumulative Impact Analysis.) The first approach incorporates forecasts of new development for all land uses (office, retail, hotel, and housing) and accounts for the demolition and conversion of existing space. The second approach accounts for the net addition of office and retail development. Moreover, the Downtown Plan forecast methodology incorporates changes in economic activity and employment that would occur in the use of existing space, while the list includes the changes accommodated by net new construction and some conversions.^{5/} The Downtown Plan forecast also includes employment growth, such as building maintenance and construction employment, that is not directly related to the occupancy of space. The Downtown Plan forecast incorporates changes over time in residence patterns, reflecting changes in the regional distribution of population, housing, and employment. The list approach applies relationships derived from current conditions to the future situation, assuming no changes over time. The Downtown Plan approach is currently limited to the C-3 District while the list covers a larger geographic area. In addition, there is no definite timeframe associated with the list, while the Downtown Plan forecast represents a best estimate of the development likely to be built and occupied from 1984 to

2000. It is because of these differences that the cumulative estimates of future residence patterns under each approach are not comparable. Within each approach, however, the project can be compared to the cumulative totals as described above.

Housing Market Implications for San Francisco/6/

- There is a complicated series of interactions between employment growth and the housing market impacts of that growth. Throughout this process, adaptations or changes in conditions can be identified, but, cannot be solely attributed to employment growth.
- With continued employment growth there would be additional demand for San Francisco housing from people with strong preferences for living in the City and with the ability and willingness to pay for housing. This demand would be added to an otherwise competitive market with relatively high prices/rents.
- At the same time, additional housing would be produced in San Francisco. There would be more additional supply relative to additional demand in the future than in the past. The primary reason is that housing market factors together with local policies and redevelopment programs are expected to support a larger addition of housing in the City than occurred in the past two decades. Nevertheless, San Francisco is unlikely to accommodate all of the households that would otherwise choose to live in the City. This is explained by the City's role as the employment center for a large region, by the limited land availability in the City, and by the higher costs of producing housing in San Francisco.
- Downtown employment and employment growth will continue to be among the factors supporting a competitive housing market. It is unlikely that changes in housing demand due to downtown growth alone would be the cause of significant changes in prices and rents. Future housing prices and rents will depend on other factors besides downtown employment growth (such as interest rates and local land use policies and development costs throughout the region).

Although not all of the additional downtown workers would live in San Francisco, some would choose to do so. Many of the additional workers would be willing to pay higher prices for City housing to save on the time and cost of commuting from a more outlying location. Many of the additional workers preferring to live in San Francisco would be able to pay more for housing than some current residents.

Those workers who choose to live in the City would compete for the existing supply of housing. Those with greater financial resources would support the production of housing by the private market. Those with less financial resources would add to the competition for the stock of housing available at prices and rents below those needed for new construction. To the extent that prices/rents remain below this threshold, the supply of these types of units would not be expanded. Instead, prices/rents of existing units would be somewhat higher, occupancies would be higher (more people per unit because children live at home longer, more people live together, etc., and/or lower vacancies), and there would be pressures to upgrade the existing stock.

Competitive market pressures would be greatest for rental and for-sale housing priced below average, particularly for units below the threshold prices/rents for new housing production. Increased competition in an already competitive market, the relatively high threshold for new construction, and the large pool of consumers (not just downtown workers) with preferences for the older housing stock in San Francisco, all would result in more housing consumers seeking these types of units. The purchase and upgrading of lower-cost older housing is the first step in the process of neighborhood change known as gentrification. Often, existing lower-income residents can be "priced out" of their housing in the upgrading process.

Higher prices and rents, particularly for the relatively lower cost housing in older neighborhoods, would have various implications over time, for those in the housing market as well as for other existing residents. Some people would decide not to move into the City and some existing residents would move out of the City for more acceptable housing elsewhere. Many individuals would continue to live in San Francisco and pay higher prices/rents for the same City housing. Still others, those unable or unwilling to pay more,

would accept City housing which does not fully meet their preferences or needs. And finally, owners of existing units would benefit to the extent that their housing appreciates. It is not possible to quantify how many households would be affected in each of these ways.

This scenario of future housing market conditions in San Francisco implies that housing affordability will continue to be a problem for many of the City's households. The additional demand due to downtown employment growth would add to a future housing market situation in which many households, particularly those with incomes below the threshold needed to support new production, are expected to be paying a larger percentage of their incomes for housing or accepting less housing services than in the past.

Generally, those households with fewer financial resources available to pay for housing would make the most sacrifices in adapting to more competitive market conditions. They have less ability to compete for housing and fewer housing options. San Francisco currently has and will continue to attract a large number of persons that will be faced with these difficulties in securing housing. They include renters, younger persons, those holding entry level jobs, the elderly and others on fixed incomes, newly-arrived immigrants as well as other poor and unemployed persons.

The proposed project, as part of the future pattern of downtown office development, would contribute to these housing market impacts. The project's individual contribution cannot be separately identified.

Regional Perspective on Residence Patterns and Housing

The residence patterns of San Francisco workers can also be considered from a regional perspective. In fact, future labor force, housing, and employment throughout the region were important factors in the Downtown Plan residence patterns forecasts. Expected trends in labor force participation, workers per household, housing production, and employment growth provided the future regional context in which the Downtown Plan forecasts were prepared.

Table 9 presents residence patterns forecasts for C-3 District workers as prepared for the Downtown Plan EIR and an alternative residence patterns forecast for downtown workers using the March 10, 1984 list of downtown projects./7/ Both residence patterns forecasts are also shown as percentages of the total employed population in each part of the region, as forecast by the Association of Bay Area Governments (ABAG)./8/

TABLE 9: REGIONAL PERSPECTIVE ON RESIDENCE PATTERNS

	Downtown Plan Forecast of Residence Patterns of C-3 District Workers (a)					List-Based Forecast of Residence Patterns Of Workers in Greater Downtown Area (b)				
	Number of Workers			Percent of Total Employed Population In Each Part Of Region (c)		Number of Workers			Percent of Total Employed Population In Each Part Of Region (c)	
	Total 1984	Total 2000	Change 1984-2000	Total 1984	Change 1984-2000	Total 1984 (d)	Total Future (d)	Change from 1984 (e)	Total 1984	Change from 1984 (f)
San Francisco	159,000	189,000	30,000	45%	47%	198,000	230,000	32,000	57%	59%
East Bay	73,000	110,000	37,000	7	8	94,000	114,000	20,000	9	5
Peninsula	35,000	48,000	13,000	4	4	46,000	54,000	8,000	5	2
North Bay	19,000	29,000	10,000	7	7	27,000	33,000	6,000	10	4
TOTAL	286,000(g)	376,000 (g)	90,000	11%	11%	365,000	431,000	66,000	14%	7%

/a/ Includes permanent employment and annual average construction employment. Incorporates changes in employment for office, retail, hotel and other uses.

/b/ There is no time frame associated with development of the projects on the list. This amount of space would probably be absorbed between 1990 and 2000. If all the projects on the list were built before the year 2000, there would be more development (not currently on the list) and thus more workers in the downtown area by that year. In this case, the percent of the regional employed population in 2000 would be higher than shown here.

/c/ Forecasts of employed residents in Bay Area counties from ABAG, Projections '83. ABAG presents forecasts of employed residents for 1985 and 2000. For comparability with the cumulative analyses (which use 1984 as the base year), ABAG's 1980 to 1985 projections were prorated over the five-year period to estimate 1984 conditions for the region.

/d/ The 1984 estimate of total employment in the greater downtown area includes C-3 District estimates from the Downtown Plan EIR and order-of-magnitude estimates for the other downtown areas in that year. For the future employment estimate, estimates of employment growth from the development of buildings on the list are added to the 1984 base year totals. See note /e/.

/e/ This estimate is based on all projects on the list except those included in the Downtown Plan EIR 1984 base year estimate. The estimates of employment and residence patterns for projects on the list are based on data in the Transportation Guidelines, September, 1983.

/f/ The ABAG forecasts of employed population in each area of the region in 2000 are used for this calculation. As mentioned in note /b/, the projects on the list are likely to be built and occupied between 1990 and 2000. Therefore, by the year 2000, more development (and thus more workers) could be expected and the percentages of the total regional employed population would be higher.

/g/ The Downtown Plan forecasts include some workers who would live outside the Bay Area. This is a small number and is not shown here.

SOURCE: Recht Hausrath & Associates

The Downtown Plan 1984 estimates and forecasts for 2000 (first three columns on the left) indicate that the largest number of C-3 District workers would live in San Francisco, followed by the east bay, the peninsula, and the north bay. The largest increase of C-3 District workers would be for those living in the east bay, followed by San Francisco, the peninsula and the north bay. The next three columns compare the Downtown Plan residence patterns forecasts for C-3 District workers to ABAG's forecasts of total employed residents throughout the region. C-3 District workers would represent a relatively large share of all employed San Franciscans and relatively smaller proportions of the labor force in other Bay Area counties. Comparing 1984 and 2000, there would not be major changes in the C-3 District percentages of the labor force in each area. The same conclusions would apply in the case of any of the five Alternatives to the Downtown Plan.

The residence patterns forecast using the list of downtown projects leads to similar conclusions. In this case, the residence patterns for downtown workers do not consider changes over time in regional labor force, housing, and employment./9/ The downtown workers estimated using this approach also represent a large share of both the totals and the growth of employed residents in San Francisco and relatively smaller shares of both the totals and growth of employed residents elsewhere in the region. As in the case of the Downtown Plan forecast in 2000, there would not be large changes from the 1984 percentages showing downtown workers relative to the rest of the region's labor force.

- Because housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the downtown worker percentages of the region's employed population in each area would not be large indicates that downtown workers would not require much larger shares of the region's housing in the future than they do now. In other words, a housing stock consistent with local policies could accommodate both future downtown workers and future workers elsewhere in the region.
- As part of total regional employment growth in the future, increases in downtown employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a

competitive regional housing market with relatively high housing prices and rents. By itself, downtown growth would make only a small difference in the region's housing market outside of San Francisco. If downtown growth did not occur and all other employment growth and housing market factors remained as forecast, it is unlikely that the Bay Area's future housing market would be very different from what would otherwise occur with downtown growth.

All other things being equal, regional employment growth would mean higher prices and rents for housing than would otherwise be the case in the future. It would also mean lower housing services (less acceptable housing conditions at the same, or higher, price) for some of the region's households. How much difference (higher prices/rents or lower services) depends on other housing market factors besides employment growth (interest rates, land use policies, other demand factors, etc.). It also depends on the amount of employment growth. Downtown employment growth alone would have less impact than total regional growth.

The housing impacts of employment growth are not uniform throughout the region. Generally, there will be more effects in nearby communities than in those further from the location of job growth. The main reason is that, all other things being equal, households have a preference for residential locations closer to places of work and can pay more for housing at a closer location because they are not paying the higher transportation costs they would otherwise pay at a more distant place.

NOTES - Residence Patterns and Housing

/1/ For a description of the methodology used to forecast residence patterns, see Appendix I, Downtown Plan EIR, pp. I.8-I.30. For a description of existing and forecast future residence patterns of C-3 District workers, see Downtown Plan EIR, Section IV.D, Residence Patterns and Housing. Also see Downtown Plan EIR Summary of Comments and Responses, pp. C&R-D.82 - C&R-D.83 (which is hereby incorporated by reference pursuant to State CEQA Guidelines) for a discussion of the role of the residence patterns forecasts in analyzing future housing market conditions.

/2/ Downtown Plan EIR, p. IV.D.67.

/3/ In order to ensure consistency with the cumulative transportation analysis and to provide information on region-wide impacts, this section does not use the OHPP and 101 Montgomery formulas for estimating the number of workers who would live in San Francisco. These formulas only provide estimates of office workers living in San Francisco; they do not include factors for estimating workers living in other parts of the region. These formulas were applied to the project in the project-specific impact section of the original FEIR, p. 74.

/4/ For the 1984 estimates of workers in the greater downtown area, the C-3 District estimates of employment and residence patterns prepared for the Downtown Plan EIR were used as a base to which order-of-magnitude estimates for that year for the other downtown areas were added. Downtown survey data (C-3 District and South of Market/Folsom) presented in the Transportation Guidelines were used to estimate employment and residence patterns for projects on the March 10, 1984 list for the greater downtown area. The workers associated with these new projects were added to the 1984 base year total estimate.

/5/ As explained in the Downtown Plan EIR, the use of existing space is expected to intensify by the year 2000. For example, office employment growth is forecast to exceed the growth of employment that would be accommodated by the development of new office space. From 1990 to 2000, more intensified use of existing space would be equivalent to about a 40 percent increase in the net addition of office space forecast for that period. (See p. IV.B.41 in Downtown Plan EIR.)

/6/ This subsection presents a summary of the discussion in the Downtown Plan EIR as explained in the Downtown Plan EIR Summary of Comments and Responses (see pp. C&R-D.83 - C&R-D.94) [(see pp. IV.D.77 - IV.D.82 and pp. I.1 - I.8)], which is hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.

/7/ As explained earlier, there are several differences in the estimates of employment and residence patterns derived from these two approaches to cumulative analysis. The most important differences are apparent in the two employment estimates shown in this table. The Downtown Plan employment totals for the C-3 District are smaller than the total employment estimate for the greater downtown area, primarily because the latter estimate covers the C-3 District, plus other areas such as the south of Market area, Civic Center, and the northern waterfront. The growth for this larger downtown area is smaller than the C-3 District growth, however, because the list of downtown projects includes known projects, not all development likely to occur by 2000, and also does not incorporate changes in the use of existing space, such as increasing office employment densities.

/8/ Association of Bay Area Governments, Projections '83. This report presents forecasts from 1980 to 2000 of population, employment, households and employed residents for each of the nine Bay Area counties.

/9/ The distribution of downtown workers among the Bay Area counties is based on the residence patterns forecasts for 1984 prepared for the Downtown Plan EIR and on the Department of City Planning's Transportation Guidelines for Environmental Impact Review, September, 1983.

VI. MITIGATION

The mitigation measures described in the FEIR as "Measures Proposed as Part of the Project" were part of project plans and were also incorporated as conditions of project approval by City Planning Commission Resolution No. 9123. Measures not described in the FEIR, whether or not they were part of the project, are described below.

A. TRANSPORTATION

Measures Included As Part of Project

Project Environmental Impact Reports prepared subsequent to the FEIR on the 101 Mission project, which included a complete cumulative analysis fully covering 17 million or more square feet of new office space, did not result in adoption of any new mitigation measures that would reduce cumulative transportation effects caused by an individual project. This is in part because the Transit Development Impact Fee (TDIF) imposed on this project by ordinance and as a condition of approval is based largely on the incremental contribution of each project to the total cumulative impact of development on the transit system. Because the TDIF imposes a fee on a per square foot basis, a larger amount of development would contribute a larger sum toward mitigation and the project would have contributed its proper share. The TDIF was challenged in a lawsuit (Russ Building Partnership v. City and County of San Francisco) and was upheld in Superior Court (September 27, 1984). If this decision were to be overturned at the Court of Appeal, however, conditions already imposed on the project require that in the alternative the project sponsor will contribute to another equitable transit funding mechanism established by the City. Other measures that would reduce cumulative city-wide and regional transportation effects could be implemented by public agencies but are not feasible or appropriate for individual project sponsors as noted below.

Measures That Could be Implemented By Public Agencies

If the City were to adopt and implement the transportation improvements described in the Downtown Plan, cumulative transportation impacts would be reduced within San Francisco and, to the extent that San Francisco could influence transportation improvements recommended in the Plan for areas outside the City, adoption of the Plan would reduce regional cumulative impacts caused by downtown growth. The Downtown Plan is presently under review; action on the Plan is expected by the City Planning Commission during late summer, 1984.

Should the Downtown Plan not be implemented, the City could act to implement the transportation mitigations described in Section V.E., Mitigation, pages V.E.4-28, in the Downtown Plan EIR. These measures are similar or

identical to those in the Downtown Plan and include, in summary: measures to construct and maintain rail rapid transit lines from downtown San Francisco to suburban corridors and major non-downtown centers in San Francisco; measures to fund Vehicle Acquisition Plans for San Francisco and regional transit agencies to expand existing non-rail transit service; provide exclusive transit lanes on City streets and on freeways; reduce incentives to drive by reducing automobile capacities of bridges and highways in certain circumstances and by discouraging long-term parking; measures to encourage carpools, vanpools, and bicycle use; and measures to improve pedestrian circulation within downtown San Francisco./1/ Some of the Implementing Actions would require approval by decision-makers outside the City and County of San Francisco; many of the measures would require action by City agencies other than the City Planning Commission, such as the San Francisco Public Utilities Commission and/or Board of Supervisors. These measures are system-wide measures that must be implemented by public agencies. Other than project-specific measures such as the parking mitigation measures described above as part of the project or such as the Transit Impact Development Fee assessment required by San Francisco ordinance 224-81 which contribute indirectly to implementation of these system-wide measures, it is not appropriate or reasonable to impose mitigation at system-wide levels on individual projects.

- Since a substantial portion of the office space analyzed in this Supplemental EIR and shown to contribute to cumulative impacts has yet to be approved, one mitigation measure available to the City is the ability of the City Planning Commission to limit the contribution of future projects to the cumulative impacts by denying or limiting approvals for such projects on a case-by-case basis. The ability to withhold approval of future projects, based upon environmental impacts and available mitigation measures resulting from development, is clearly within the discretion granted to the Commission.

Measures Not Included As Part of the Project

The following measures would contribute to mitigation of cumulative transportation impacts but are not included as part of the project.

- 1. A portion of the office space in the project could be required to remain vacant or be put to some non-office use that would not cause a substantial contribution to cumulative impacts. This measure would reduce the number of new employees with jobs in downtown who are likely to contribute to cumulative transportation, air quality, energy and housing impacts. The reduction would not necessarily reduce the number of employees in direct proportion to any reduction in office space, since some firms that might have occupied the former "office" space could merely increase employee density. To the extent that fewer people would be employed downtown who would be likely to contribute to cumulative peak period transportation impacts, the cumulative transportation impacts would be less, although the project's share of total cumulative effects would be reduced by a lower proportion since the project and the total cumulative would both be reduced by the same amount. The project sponsor has rejected this measure because the project is already built and project economics were based on occupancy as originally designated. The City Planning Commission will determine whether or not to impose the measure as a condition of approval.

2. Increasing contribution requirements over and above the present \$5.00 per square foot requirement imposed by San Francisco Ordinance 220-81 (Transit Impact Development Fee) would provide further funding to San Francisco for transit and parking and possibly traffic impact mitigation, depending upon the purposes for which the fees might be designated. These fees might allow transportation improvements such as those described in the Downtown Plan EIR to be implemented earlier than would be possible through Federal, State or other City funding. The City Planning Commission has not been delegated the authority to require such a mitigation measure. CEQA does not confer on the decision maker independent authority to mitigate where separate legislative authority is not otherwise available. (Pub. Res. Code §21004.)

B. AIR QUALITY

Measures that would reduce transportation impacts by reducing the number of vehicle miles traveled would reduce cumulative air quality effects.

C. HOUSING

- In the litigation in the Superior Court, the Court effectively held that impacts on housing are not environmental impacts requiring discussion in an EIR. This ruling was not appealed to the Court of Appeal and is the law of this case. For the sake of providing the fullest possible information to the City Planning Commission and the public, housing impacts and mitigation measures are included in this Supplemental EIR. Actions taken by the project sponsor to comply with housing mitigation conditions are detailed in Appendix E.

- By complying with the Commission's condition in the project approval resolution (City Planning Commission Resolution No. 9123) requiring that 180 housing units be built in San Francisco, the project has reduced or will reduce project-specific contributions to cumulative housing impacts in San Francisco
- to an acceptable level. As a condition of project approval, the project sponsor was required to cause the construction and/or rehabilitation of 180 housing units in San Francisco (see page A-33 of the Final Supplemental EIR).

In January 1984, the Department of City Planning granted approval to the project sponsor to meet the requirement of 180 housing credits by committing up to \$500,000 to buy-down the mortgage rates of at least 60 Silver View Terrace Townhouses, each designated as "affordable units." The Commission has no jurisdiction to require housing construction in other localities.

D. ENERGY

The project is required to comply with Title 24 Energy Standards and thus would not breach state standards for energy consumption. The project also included a provision to review actual energy consumption one year after occupancy, with implementation of those energy conservation measures with a 3-year or less payback (see FEIR p. 116a). No new mitigation measures to reduce energy consumption are necessary. The measures included as part of the project would reduce energy impacts to an insignificant level.

NOTES - Mitigation

/1/ Department of City Planning, Downtown Plan Environmental Impact Report, EE81.3, October 18, 1984, Section V.E., "Transportation and Circulation," pp V.E.4-28. This material is hereby incorporated by reference and is summarized in the above text.

VII. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

The following are expected significant impacts subject to final determination by the City Planning Commission as part of its certification process. Chapter VII. of the Final Supplemental EIR will be revised, if necessary, to reflect the Commission's findings.

This chapter identifies significant cumulative environmental impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the project, as described in Chapter VI. Mitigation.

Note that contributions of the project to possible cumulative impacts on energy use and housing demand have been mitigated to a level of insignificance by measures required as part of the project approval.

The project would be part of a trend of denser development in downtown San Francisco. The project would contribute to cumulative traffic increases on downtown streets and on freeways and bridges near downtown San Francisco, and would contribute to cumulative passenger loading impacts on Muni, BART and other transit carriers. Mitigation measures are available which would reduce these effects on a system-wide basis; these mitigation measures could be implemented by the City and County of San Francisco and other agencies with jurisdiction over highways, bridges and transit systems but could not be implemented by individual project sponsors.

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I. INTRODUCTION

This document contains the public comments received on the Draft Supplemental Environmental Impact Report (DSEIR) prepared for the proposed 101 Mission project, and responses to those comments.

All substantive spoken comments made at a public hearing before the City Planning Commission on August 23, 1984 and all written comments received during the public review period from July 23, 1984 through August 23, 1984 have been reviewed and are presented herein by direct quotation, edited to delete repetitive and non-substantive material only.

Comments and responses are grouped by subject matter. As the subject matter of the topic may overlap that of other topics, the reader must occasionally refer to more than one group of Comments and Responses to review all information on a given topic. Where this occurs, cross-references are provided. Some comments do not pertain to physical environmental issues, but responses are included to provide additional information for use by decision makers.

These comments and responses will be incorporated into the Final EIR as a new chapter. Revisions resulting from comments and responses will be incorporated into the Final EIR, as indicated in the responses.

II. LIST OF COMMENTERS

Persons Commenting at the Public Hearing, August 23, 1984

Susan Bierman, Member, City Planning Commission
Howard N. Ellman, Ellman, Burke and Cassidy, Attorney for the
Montgomery/Washington Project
Sue Hestor, San Franciscans for Reasonable Growth
David Jones, San Franciscans for Reasonable Growth
Calvin Welch, Council of Community Housing Organizations
John Wotzka, San Francisco Resident

Persons Commenting in Writing

John Elberling, San Franciscans for Reasonable Growth
Howard N. Ellman, Ellman, Burke and Cassidy, Attorney for the
Montgomery/Washington Project
Carl Imparator, San Franciscans for Reasonable Growth
David B. Jones, San Franciscans for Reasonable Growth
Robert A. Thompson, Pettit and Martin, Attorney for the 101 Mission and
Spear and Main Projects
Calvin Welch, Council of Community Housing Organizations
K. L. Wong, Muni Planning Staff
Milton Feldstein, Bay Area Air Quality Management District

III. SUMMARY OF COMMENTS & RESPONSES

A. EIR PROCEDURES AND FORMAT

COMMENT

"We would request the addition to the Supplemental EIR of an Appendix which more clearly compares the environmental impacts disclosed by the Final EIR for the project previously certified by the Planning Commission and those disclosed by the Supplemental EIR." (Robert A. Thompson, letter of 8/23/84.)

RESPONSE

At the request of the commenter, a new Appendix G has been added to the EIR (and is provided on page 257 at the end of this document) which provides a simple comparison of those results from the previously certified Final EIR (FEIR) that are comparable to the cumulative impact information provided in the Supplemental EIR (SEIR). Generally, the cumulative analysis results in the FEIR are not comparable to those presented in this Supplement. This is because the approach to cumulative analysis has been refined since the EIR was completed. For example, cumulative traffic impacts were assessed for nearby intersections in the FEIR, whereas the present analysis studies the intersections leading to freeway on-ramps that are likely to contain measurable amounts of project peak period traffic. Thus, the City Planning Commission was aware when the project was approved, of the impacts on intersections near the project where the highest concentrations of project-related vehicles might be found whereas the present analysis focuses on the locations where the project would contribute to the greatest cumulative impacts. Where results were comparable, the FEIR usually shows somewhat less or similar impact, although in a few instances greater impacts were estimated.

COMMENT

"The first set of comments that I have concerns the excessive generality of both settings and impacts discussion in these four documents. While understanding that the boilerplate approach no doubt stems from the fact that they're dealing with the same projected cumulative impacts. I have a problem with the boilerplate. It is excessively general in language, so general that I don't see at all how it could be of any aid or assistance to a decision-maker trying to discern the impacts of these projects." (Calvin Welch, Transcript.)

RESPONSE

The comment characterizes the similarity of description and analysis found in the Environmental Setting and Environmental Impact sections of each of the four (4) EIRs as "boilerplate." As was pointed out at the August 23, 1984, hearing on the Draft EIR, the four Supplemental EIRs are prepared

because of the Court of Appeal's decisions that the cumulative analyses previously prepared for these projects were inadequate. Inasmuch as the cumulative analysis is applicable to all projects located in the downtown area, the cumulative analyses prepared for these four Supplemental EIRs are identical, except where differences relate to a single project.

The authors of these Supplemental EIRs disagree with the commenter's observation that the setting and impact discussions are excessively general so as to not assist the decision-maker in discerning the impacts of these projects. The cumulative impact analyses in these Supplemental EIRs analyze in great detail and specifically, using two different methodologies, the cumulative impacts on transportation, air quality, energy and housing. This information is more than sufficient to enable the decision-maker to understand the cumulative effects of the proposed project. Moreover, the State CEQA Guidelines provide that the discussion of cumulative impacts need not provide as great detail as is provided for project impacts alone, but should be guided by standards of practicality and reasonableness (§15150).

COMMENTS

"And I read these EIRs, and I think I have some skill in reading these EIRs, and what I see is happening is you are hiding things....No one can read these EIRs any more. And if in comparing the old EIR and its explanation of how you do projections and this EIR, and you can't understand them, what are we doing to meet the requirements of the law? What are we doing to meet the requirements of the court? What are we doing to meet our public obligations? It's supposed to be a document that anyone who really wants information can read." (Sue Hestor, Transcript.)

"I think we need clear, more factual information presented understandably." (Commissioner Bierman, Transcript)

"In fact, the information in this EIR is more obscure and less verifiable than in past office project EIRs. This DEIR lacks easy to comprehend summaries, tables, graphics, and visual aids to illustrate the findings of the DEIR. In order to find the supporting rationales and assumptions for major DEIR findings one is referred to footnotes, which subsequently references the Downtown Plan EIR, which subsequently references a technical appendix, which subsequently references the Downtown EIR Consultant's Report." (David B. Jones, letter of 8/21/84.)

RESPONSE

The discussion of methodologies used to predict cumulative impacts is of necessity somewhat complex due to the dynamic and interactive nature of the economic, housing and transportation systems in an urban environment. The explanations cannot be reduced to simple, cut and dried numbers. The explanation of the differences between the list-based approach and the

Summary of Comments and Responses

Downtown Plan EIR approach to cumulative impacts analysis is also relatively new information and is therefore presented in rather extensive detail. The intent of these detailed discussions is to provide a thorough explanation for the interested reader. Further explanation is provided in the Downtown Plan EIR and, as noted later in this document, in the Responses to Comments on the Downtown Plan EIR. Much of that material has been incorporated by reference. Incorporation by reference is encouraged in the State CEQA Guidelines and is intended to avoid voluminous EIRs, which this document certainly would be if the entirety of the relevant sections of the Downtown Plan EIR were included.

The Summary Section in the Supplemental EIR presents the "boiled down" results of the impacts analyses, with a more limited explanation of the methodologies used. In addition, many of the cumulative impacts can be seen best by studying the tables provided in the Impacts Section of the SEIR. In some cases, particularly Residence Patterns and Housing, it is simply not possible to present the facts in tabular form and some of the impacts are not quantifiable, and so a qualitative discussion must be presented.

The additional information on methods and the qualitative discussions of impacts included in this EIR do not mean that the SEIR fails to present factual information. The impacts discussions were prepared by qualified experts but are written for the lay reader insofar as the writers and Department staff were able. Certainly the same material written as scientific journal articles for other experts would have been written in a different way using the technical "jargon" experts generally use to communicate.

Responses to specific comments provided later in this document provide clarification on many specific issues raised by these and other commenters.

COMMENT

"With regards to the growth projection methodology, ... you have changed your procedure dramatically....These projects have gone through two methodologies. Those of us who have been involved in the process for the past couple of years know that there has really been a couple of interim procedures. You have gone through changes, about five changes, since we have started this litigation...."(Sue Hestor, Transcript.)

RESPONSE

The Department has used two basic methods to analyze cumulative impacts of downtown office development such as is included in the project covered in the Supplemental EIR. These two methods are a list-based analysis and an employment and space forecast-based analysis.

Development of the list-based method followed a logical progression. The Department's approach to cumulative analysis evolved over several years and began by including a list of only those projects already approved,

based upon the understanding that projects not yet approved could be seriously modified or disapproved during permit processing and therefore were speculative. As analysis became more sophisticated, the list was enlarged to include projects reasonably well along in the review process. The Court of Appeal in San Franciscans for Reasonable Growth v. City and County of San Francisco found that the earlier list, including only approved projects, was too limited and seemed to suggest that all projects with applications for environmental review on file with the Department should be included on the list of projects to be evaluated. This decision caused a further expansion of the list of projects.

The list-based approach to cumulative analysis has not changed over the years. The list of specific projects is used as the basis for predicting future employment which is then used to assess such cumulative impacts as transportation and air quality. The list-based methodology has some limitations, such as lack of a time frame for analysis and assumptions that such things as residence locations and mode split (the means people use to get to and from work) remain constant into the future, as discussed in the SEIR. In addition, for long-range planning purposes, another method was needed because the list-based method assumes the status quo not only for transportation and residence patterns but also for development controls such as zoning and other Planning Code provisions. Therefore, particularly for the Downtown Plan, an economic forecast method was used to develop estimates of future amounts of employment and space and these estimates were used in the somewhat more sophisticated transportation, air quality and residence patterns analyses which themselves account for behavior, market and facility shifts over time. The SEIR and the Downtown Plan EIR as incorporated by reference in the SEIR explain this forecast method--the Downtown Plan EIR methodology--in more detail.

In summary, only two different cumulative analysis methodologies have been used, and both are presented in this Supplemental EIR. A comparison of the results of the two methodologies, presented in this SEIR, shows that taking into account the inherent differences in the methods, the two provide appropriately similar results. Both methods are acceptable under the State CEQA Guidelines.

COMMENT

"We would like to incorporate by reference, to the extent the same may be applicable to this Supplemental EIR, the comments contained in a letter to DCP/OER dated August 23, 1984, from Ellman, Burke & Cassidy commenting on the Montgomery/Washington Building, Draft Supplemental Environmental Impact Report No. 81.104E." (Robert A. Thompson, letter of 8/23/84)

RESPONSE

Comments contained in the letter of 8/23/84 signed by Howard N. Ellman on the Montgomery/Washington DSEIR have been included in these comments, and

Responses have been prepared that are identical where appropriate and project specific where necessary.

B. PURPOSE OF EIR

1. Overview

COMMENTS

The project sponsor requests that the fourth paragraph on page 1 and the first, second and third paragraphs on page 2 be revised as follows (revisions are underlined):

"On July 22, 1982, the trial court denied all of the petitions, issuing a memorandum of decision that found that: (1) neither the Commission nor the Board had abused its discretion in certifying the EIRs and approving the projects; (2) the findings of the Board and the Commission were supported by substantial evidence; (3) 'the standards employed and the projects analyzed by the Planning Commission in evaluating the cumulative impacts resulting "from the incremental impact of the project[s] when added to other closely related past, present and reasonable[y] foreseeable future projects" (14 Cal. Admin. Code §15023.5(b)) were reasonable and rational and did not constitute an abuse of discretion' (emphasis added); (4) the mitigation measures imposed on each project were legally sufficient and supported by substantial evidence; and (5) the pendency of the Downtown EIR did not preclude the approval of these or any other projects. SFRG appealed (to the California Court of Appeal, First Appellate District) the trial court's judgment denying its requests that (1) the CPC be required to set aside its resolutions that certified the EIRs and (2) be required to void the permits permitting construction of the projects. (151 Cal. App. 3d at p.67). The appellate court found the EIRs to be inadequate and incomplete because the CPC 'omit[ted] from its calculations and analyses of cumulative impacts other closely related projects that were [con]currently under environmental review' and therefore 'failed to interpret the requirements of a cumulative impact analysis so as to afford the fullest possible protection of the environment.' (151 Cal. App. 3d at p.81)

"The appellate court found that by omitting in the cumulative impact analysis other closely related projects that were currently under environmental review, the EIRs failed to provide the responsible agency or the public with the type of information called for under CEQA and the State CEQA Guidelines which require study of the... incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects. The court concluded that the trial court erred in its

findings regarding the adequacy of cumulative impact analysis in the EIRs, reversed the judgments and remanded the four matters to the trial court with direction that it requir[e] the [Planning] Commission to redraft the EIRs for all four projects in compliance with the requirements of CEQA as expressed [within the appellate court's opinion] (151 Cal. App.) The Court of Appeal also noted, correctly, that construction was underway and likely nearing completion, and stated: 'Obviously, it would create economic havoc to interrupt such activity at this point, and it is not our purpose to do so.' (151 Cal. App. 3d at p.82 note 19) The court further emphasize[d] that rewriting of the EIRs would be meaningful even though construction were allowed to proceed.

"On May 9, 1984, the Superior Court of California issued a Peremptory Writ of Administrative Mandamus which ordered the CPC to vacate the certificate of completion of the Final EIR (FEIR) and required preparation and publication of a Supplemental EIR. The Court directed the scope of this Supplemental EIR to supplement the analysis in the FEIR of the cumulative impacts of the subject project together with other closely related past, present and reasonably foreseeable probable future projects. The Court also required that no final Certificate of Occupancy be issued by the City until further order of the Court, but denied the repeated requests of petitioner that issuance of temporary certificates of occupancy for 101 Mission Street and the other projects be enjoined." (Robert A. Thompson, letter of 8/23/84.)

"San Franciscans for Reasonable Growth ("SFRG") expressly asked the Court of Appeal to vacate the site permit for the project. The Court refused to grant that relief. SFRG did not appeal. It is now the law of the case (and the law which controls these proceedings before the Planning Commission) that the permits remain in effect.* The Court of Appeal refused to interfere with completion of the project on the grounds that to do so would create unnecessary hardship. In short, the Court directed the trial court to fashion a writ requiring preparation of a Supplemental EIR. It did not open the door to action which would have the effect of creating additional hardship or of suspending the practical utility of the permits the City has issued.

"We submit that this is the single most important consideration controlling presentation and review of the Supplemental EIR....

"To state the matter another way, the exercise in which the City is engaged is not a typical environmental assessment. It is an exercise which would not be undertaken except in response to judicial mandate. But even though the EIR is intended solely to respond to judicial mandate, that mandate is not clearly defined nor are its limits articulated.

"The Supplemental EIR describes the holding of the Court of Appeal (in the second full paragraph on page 2) [first paragraph, p. 2 of the 101 Mission SEIR] as follows:

'The appellate court found the EIRs to be inadequate and incomplete because the CPC "failed to interpret the requirements of a cumulative impact analysis so as to afford the fullest protection of the environment."'

"The quoted passage is a fragment of a lengthy opinion, taken out of context, which does not accurately reflect the Court of Appeal's opinion. The Court concluded that the CPC had not adequately considered cumulative impact because it had considered each project in the context of an insufficient quantity of prospective construction. Thus, the Court directed that cumulative impacts of the projects be re-evaluated in the context of a larger universe of potential future construction, using a consistent measure in the evaluation of each project.

"This failure properly to define the scope of the opinion has an important effect upon the discussion of mitigation measures. As we will explain more fully below, it leads to discussion of a mitigation measure which is completely beyond any issue properly raised by the opinion.

"*Judge Weinstein has interpreted the Court of Appeal opinion by rejecting SFRG's attempt to enjoin construction and denying SFRG's request that he issue a writ vacating the project's site permit. The Board of Permit Appeals has acted similarly, rejecting SFRG's attempt to revoke temporary certificates of occupancy issued with respect to space in the project." (Howard N. Ellman, letter of 8/23/84.)

RESPONSE

The text has been revised essentially as requested by Mr. Thompson to provide a more thorough discussion of the holding of the Court of Appeal and the Writ of the Superior Court in SFRG v. CCSF. This new text responds to the comments made by Mr. Ellman that the EIR text provided an inadequate explanation of the limited mandate of the Court of Appeal.

2. Scope of Supplemental EIR

COMMENT

"The first sentence under Paragraph B, Scope of Supplemental EIR, on page 3 should be expanded with the clause added at the end of the sentence 'in response to the Court's mandate.'" (Howard N. Ellman, letter of 8/23/84.)

RESPONSE

The requested addition has been made.

COMMENT

The project sponsor requests that the first sentence in the first paragraph on page 3 be revised as follows:

"In response to the Writ issued by the Superior Court (Appendix A), this report supplements or modifies the cumulative impact analysis in the EIR published May 22, 1981 and certified August 27, 1981 (hereinafter called FEIR).

The project sponsor requests that the following paragraph be added to the end of Chapter I., page 4:

"While both methodologies have been used, it is the primary purpose of this Supplemental EIR to comply with the mandate of the Superior Court Writ to utilize a revised and expanded list based approach to cumulative impact analysis. The purpose of reference to the Downtown Plan EIR and its methodology is to demonstrate inter alia that the Downtown Plan EIR confirms the factual conclusions reached by both methodologies. Where the list-based approach or the Downtown Plan EIR results have varied, in each case the analysis of impacts and mitigation measures has taken into account the 'worst case' possibility." (Robert A. Thompson, letter of 8/23/84.)

RESPONSE

The requested additions have been made with some changes in the second of the two requests, as follows:

"While both methodologies have been used, the purpose of this Supplemental EIR is to comply with the mandate of the Superior Court Writ to use a revised and expanded list-based approach to cumulative impact analysis. The Downtown Plan EIR methodology is included to demonstrate that an economic forecast methodology provides similar results and thus confirms factual conclusions reached in the EIR. Where the results of list-based approach or the Downtown Plan EIR have varied, an explanation of the reason for this variation is provided."

COMMENT

"The references to prospective square feet of space to be constructed under the two methodologies would be made more clear by reference to the appropriate sections of the appendix (A6-A9). These provisions would be improved by a definition of 'active application.'

"The Appendix (A-9) contains a reference to the Mission Bay project. There is no current approval applicable to Mission Bay and no application pending.

Although the newspapers have reported an 'agreement' reached between the Mayor's office and the land owner, nothing can happen at Mission Bay until the Master Plan is amended, zoning ordinances adopted and other approvals obtained after complete environmental review. By the standards established for analysis of cumulative impact, the project does not qualify for mention or consideration in this EIR because its fiscal shape is far too speculative for discussion now." (Howard N. Ellman, letter of 8/24/84.)

RESPONSE

Appendix B, containing the Cumulative List and an explanation of the list, was referenced several times in the SEIR. The following cross reference has been added on p. 6, last paragraph, and on p. 38, after the next-to-last sentence in paragraph 1:

"(See Appendix B, pp.A-6 to A-13 for a complete listing of projects on the Cumulative List and an explanation of the list.)"

As is explained in Appendix B, on page A-7, the list does not include inactive projects, that is applications that have had no acting on the part of project sponsor for over one year, applications that have been withdrawn by sponsor or projects that have been revised to omit office/retail components. Clearly, then, active projects are those for which the City has received a complete application requesting at least environmental evaluation and for which work is proceeding at a reasonable and normal pace.

The second paragraph on page A-9 has been revised based on changed circumstances surrounding the "Mission Bay" project.

"The Department is aware of proposals by Southern Pacific Land Co. to develop property near China Basin. This area and the proposals by Southern Pacific have been called "Mission Bay." An application for environmental review was filed for the project over one year ago but was withdrawn in early 1984 and no new application has been filed. Since withdrawal of this application, members of the San Francisco Board of Supervisors have proposed that the City purchase all or portions of the property; this proposal was later dropped. In July, 1984, Southern Pacific announced major revisions in its proposal reducing the scope of the development proposal. No new applications have been filed. Both the original project and the July 1984 proposal would require environmental analyses and Zoning Map and Comprehensive Plan amendments, and BCDC and possibly U.S. Army Corps of Engineers permits in addition to City approvals before any building could begin. With no application pending, and with the possibility of further revisions by the developer before submittal of any application,

the Mission Bay project remains too speculative to include in any cumulative analyses."

COMMENTS

The project sponsor requests that the following material be inserted at the beginning of Section 'C. Housing' on page 89:

"The Court, in the litigation referred to in Chapter I above, has effectively held that effect on housing is not an environmental impact requiring discussion in an EIR of impacts or mitigation measures. For the sake of providing the fullest possible information to the Planning Commission and because of the inclusion of both in the FEIR, housing impacts and mitigation measures are discussed in this Supplemental EIR. Actions already taken by the project sponsor to comply with existing housing mitigation conditions are detailed in Appendix E." (Robert A. Thompson, letter of 8/23/84.)

"One of the comments that we have made on the EIR, is that it explores a number of issues that are far outside the ambit of what the court has requested be done. Indeed, in the very court proceeding to which I am referring, the judge held tha housing was not a physical impact properly cognizable under CEQA. He said it was an appropriate issue for you to consider when you were conditioning the permits, but the law of this case and the law of these proceedings is that you don't have to consider housing issues at all." (Howard Ellman, Transcript.)

RESPONSE

The following has been added to the text on page 89 at the beginning of Subsection C. Housing:

"In the litigation in the Superior Court, the Court effectively held that impacts on housing are not environmental impacts requiring discussion in an EIR. This ruling was not appealed to the Court of Appeal and is the law of this case. For the sake of providing the fullest possible information to the City Planning Commission and the public, housing impacts and mitigation measures are included in this Supplemental EIR. Actions taken by the project sponsor to comply with housing mitigation conditions are detailed in Appendix E."

See also Section K of these Responses to Comments for a discussion of housing mitigation.

C. PROJECT DESCRIPTION

COMMENT

The project sponsor requests the following revisions (revisions underlined):

Chapter II., Summary, Section A., Project Description, page 5 of the SEIR, the third sentence of the first paragraph:

"'Since certification of the Final EIR (FEIR) on 101 Mission Street on August 27, 1981, the project has been built as approved per CPC Resolutions 9123 adopted August 27, 1981, and 9269 adopted January 7, 1982 and is partially occupied.'"

The first two sentences of the second paragraph on page 5:

"'The project described in the FEIR would contain approximately 219,350 gross square feet (gsf) of office and mechanical space and no retail space. The completed project actually contains approximately 197,000 gsf of office space, 3,200 gsf of ground-floor retail space and 14,100 gsf of mechanical/service space.'"

The third paragraph on page 5, beginning with the third sentence:

"'The building's main pedestrian entry fronts an arcade with Mission and Spear Street access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the inter-block walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street. A truck loading area, leading to a freight elevator, is located off Spear Street. The FAR for the finished structure is 17:1, which includes floor area obtained from development bonuses.'"

The fourth paragraph on page 5:

"'Deducting previously existing on-site office uses (9,900 gsf), the project as constructed would contribute approximately 187,100 net new gross square feet of office space to the 19 million gsf of net new downtown office space considered in the cumulative analysis. Thus, the project would comprise about 1% of the total amount of net new office space projected to be added in downtown San Francisco based on the list of projects.'"

The first sentence of the fourth paragraph on page 14:

"'An off-street truck loading area, leading to a freight elevator, is located off Spear Street.'"

The first sentence of the fifth paragraph on page 14:

"'The FAR for the project as described in the FEIR is 17.4:1; the FAR for the project as constructed is 17.0:1.'"

The third sentence of the first paragraph on page 16:

"'Architects for the project are Hardwood K. Smith and Partners.'"

The second paragraph on page 16:

"'The project as built would contribute approximately 187,100 gross square feet (gsf) of net new office space to the 19 million gsf of net new downtown office space considered in the cumulative analysis. Thus, the project would comprise about 1% of the total amount of new office space projected to be added in downtown San Francisco based on the list of projects.'"

Chapter V., Environmental Impact, Section B., Transportation, page 57 of the SEIR, the second paragraph be revised as follows:

"'The building's main pedestrian entry fronts an arcade with Mission and Spear Street access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the inter-block walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street.'" (Robert A. Thompson, letter of August 23, 1984.)

RESPONSE

The text has been revised as requested.

COMMENT

The project sponsor requests the following revisions (revisions underlined) in Chapter III, Project Description, page 14 of the SEIR, the second paragraph:

"'The project described in the FEIR would have contained 219,350 gsf of office and mechanical space and no retail space. (Analysis of impacts in the FEIR was conducted on the 219,350 gsf. Evaluation of impacts is based upon a project's specific uses (i.e., office, retail, etc.) Therefore, the FEIR overstated the project's impacts because mechanical space was includes in the analysis.) The project has been built as approved per CPC Resolutions 9123, adopted August 27, 1981 and 9267, adopted January 7, 1982, and contains approximately 197,000 gsf of office space, 3,200 gsf of retail space and 14,100 gsf of mechanical/service space for a total of 214,300 gsf.'" (Robert A. Thompson, letter of August 23, 1984.)

RESPONSE

The last sentence of the first paragraph on page 14 is amended to read:

"Since certification of the Final EIR on 101 Mission Street on August 27, 1981, the project has been built as approved per CPC Resolutions 9123, adopted August 27, 1981 and 9267, adopted January 7, 1982, and is partially occupied."

The second paragraph on page 14 is rewritten as follows:

"The project described in the FEIR would have contained 219,350 gsf of office and mechanical space and no retail space. The FEIR also described a mezzanine level and basement-level parking. The project as built contains approximately 197,000 gsf of office space, 3,200 gsf of retail space and 14,100 gsf of mechanical/service space for a total of 214,300 gsf. Other than the loading area described below, there is no parking."

COMMENT

The project sponsor requests that the third paragraph on page 14 of the SEIR be replaced with the following:

"The completed project is essentially identical in height to the design described in the FEIR; that is, the building contains 20 stories above the ground floor and rises 273 feet above grade (see Figure 1). Although total floor area is similar to that described in the FEIR, the design of the completed project is significantly different, particularly on the ground-floor level. The building's main pedestrian entry fronts an arcade with Mission and Spear Street access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the interblock walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street.'" (Robert A. Thompson, letter of August 23, 1984.)

RESPONSE

The third paragraph on page 14 is rewritten as follows:

"As described in the FEIR, the building contains 20 stories above the ground floor and rises 273 feet above grade (see Figure 1). Although total floor area is similar to that described in the FEIR, the design of the completed project is different, particularly on the ground-floor level.⁷¹⁷ The building's main pedestrian entry fronts an arcade with Mission and Spear Street access. Two smaller pedestrian entries also front the arcade: one leads to a lobby area/pedestrian walkway that connects the project with the interblock walkway and buildings to the west of the project site; the other leads to the project's retail area fronting Mission Street."

The project sponsor requests that the first and second items listed in footnote on page 16 be revised into one item as follows:

"The completed project contains approximately 197,000 gsf of office space, 3,200 gsf of retail space and 14,100 gsf of mechanical/service space. The project described in the FEIR would contain 219,350 gsf of office and mechanical space (actual square footages assigned to either office or mechanical space is unknown at this time)." (Robert A. Thompson, letter of August 23, 1984.)

RESPONSE

The first item in footnote 1 on page 16 is revised to read:

- o The completed project contains approximately 197,000 gsf of office space and 14,000 gsf of mechanical/service space, rather than the total 219,350 gsf of office and mechanical space proposed in the FEIR (actual square footages assigned to either office or mechanical space are unknown at this time)."

COMMENT

"We think you should generate a better setting, a better description of the project, building by building. Tell us how much of the space has been rented, square feet. Who are the tenants? What is the rental rate? Or whatever you call rental rate in these kinds of buildings. How much of the space is currently vacant?" (Sue Hestor, Transcript.)

RESPONSE

The 101 Mission Building currently has leased a total of about 123,000 gross square feet of space, including approximately 122,000 gsf of office space and 1,300 gsf of retail space, about 62% of the total gross square footage in the building. Rental rates range from \$22 to \$32 per square foot, net of insurance, taxes and maintenance.

Primary tenants include insurance and realty companies (about 18%), shipping companies (17%), financial companies (47%) and general offices (18%).

D. LAND USE

COMMENT

"On page 19, the EIR states:

'As San Francisco firms expand, they look to suburban office markets to accommodate new functions and/or to attract a certain segment of the labor force.'

"To what 'segment of the labor force' is the EIR referring?" (Howard N. Ellman, letter of 8/23/84)

RESPONSE

The sentence cited in the comment is part of a discussion of the Bay Area office market. It is part of the explanation for the recent de-centralization of office development in the region. The "segment of the labor force" referenced in the EIR as one of the factors behind the growth of suburban office development consists primarily of women interested in job opportunities close to their homes. Women, both those returning to the labor force after raising a family and younger women, have become an important factor in the workforce throughout the country. The skill and education levels of this part of the labor force in Bay Area suburbs are well-matched to the employment needs of the growing administrative, clerical, and information-processing office functions.

E. CUMULATIVE IMPACT ANALYSIS

COMMENTS

"...Computer models are used to determine the major employment, transit, transportation, traffic, and housing impacts. The determinations of these models are extremely radical, for they predict a virtual stop to the demand for office space. But there is almost no effort made to explain in understandable terms why we should accept the findings of these models. A stop to economic activity in San Francisco of a magnitude unprecedented since the 1929 great depression needs more explanation than one or two paragraphs....

"The Planning Commission publicly stated in 1980 that the new zoning and planning measures they would undertake would slowdown the rate of office development. They said 'trust us'. They then eliminated FAR bonuses for office developers and instituted 'discretionary review' of office projects. They predicted these measures would provide an economic disincentive to new developers and would slow the pace of development. In the next four years the amount of office space approvals quadrupled instead of going down.

"This DEIR publicly states that new zoning and planning measures will slowdown the rate of office development by providing economic disincentive to office developers. The DEIR analysis is based on a computer analysis

which is an unfathomable black box, and the DCP is again saying 'trust us'.

"Why should we?

"The findings of this DEIR defy common sense and any sense of historical perspective. The DEIR basically says the new zoning and planning controls of the City will cut demand such that, in the next 16 years there will be a demand for only 7 million square feet of new office space development. But it also states that in 1984, the first year of this 16 year period, there are already applications under review by the DCP of 9 million square feet of office space. I strongly suspect the developers who have paid money to file applications are more believable than a computer model which says the desire for office development in San Francisco will abate.

"This DEIR was also difficult to understand because there was no alternative which presumed a level of development of office space equal to that experienced in the last five years. The list based approach assumed no new buildings after the early 1990s. The public and the Planning Commission was therefore not presented any 'no project' alternative which assumes status quo development. Even if the computer model presumed a slowdown in growth of office development, the DEIR should have at least contained a worst case continuation of the past four years. As it is, the DEIR had uncomparable alternatives because they were for different time frames. This hardly seems to be a methodology to foster public understanding and objective debate....

"The DEIR uses two different modelling approaches when analyzing the environmental impacts of cumulative office development: (1) the 'employment based' Downtown EIR forecasts to the year 2000, and (2) the 'list based' March 10, 1984 list of projects proposed for the downtown area. The magnitude of employment, transit, traffic, housing, and other impacts are determined as a result of these models.

"Modeling is a very powerful tool, but it presents opportunities for error, misunderstanding, and abuse because the public and decision makers cannot independently verify if they are accurate....

"Because the transit, transportation, and housing environmental impact analyses are based on the cumulative impact analyses; and because the cumulative impact analyses are based on models, it is important that the following additions or modifications be made to this DEIR before it is finalized....

"- Page 17 of the DEIR notes that between 1960 and 1979 office space was built at an average rate of 1.4 MSF per year but that between 1980 and 1983 office space was built at an average rate of 3.0 MSF per year. What the DEIR does not note is that between 1980 and 1983 the Planning Commission took actions which allegedly should have discouraged new office construction by eliminating all of the bonuses which had previously been used to encourage office space and by instituting a more stringent 'discretionary review' process to screen office projects. In spite of these actions, the demand for office space increased.

"The average annual rate of office space construction from 1964-1983 is graphed in Figure G-1 and tabulated in Table G-1. Also shown is the annual rate of office space construction probable between 1984 and 1987 based on the March 10, 1984 DCP list, and the annual rate of office space construction predicted by the Downtown Plan from 1984-2000.

"This shows an unprecedented drop in the demand for office space in the next 16 years. This type of reduction in office space demand has never occurred in the last 25 years. Table G-2 shows that the Downtown Plan EIR predicts that there will be a demand for less than 500,000 square feet of office space over the next 16 years.

"The FEIR should explain the reasons for the prediction that there will be a dramatic drop in the demand for office space in San Francisco.

"What assumptions were used in this determination? Explain the rationale behind these assumptions.

"Is there any precedent for such a drop in office space demand in San Francisco? Is this drop reflected in applications for new projects or in the announcement of new projects?

"There are over nine million square feet of new office development for which applications have been submitted to the DCP and which are now in the formal review process. How is the Downtown Plan EIR employment model prediction that there will be a drastic reduction in office space demand reconciled with the magnitude of the amount of square feet of these applications? To put the amount of office space under formal review in perspective, how much unapproved office space was under formal review in 1976, 1978, 1980, and 1982?

"How can the request by Southern Pacific Land Corporation to build 11 million square feet of in San Francisco reconciled with the fact that there is a diminishing demand for office space projected?...

"The FEIR should describe the success or failure of past efforts to use zoning or planning code changes in San Francisco to discourage office development. The success of the elimination of bonuses in 1981 and the institution of discretionary review in 1981 in slowing the rate of office development should be explicitly discussed. If past efforts have failed to slow office development, what are the reasons for this failure?

"If proposed zoning changes in the Downtown Plan are assumed to be one of the primary economic reasons for a slowdown in office space growth, what aspects of the Downtown Plan are responsible for this slowdown and what is the economic cost to a developer which will act as a disincentive for development to continue at the present pace? What assurance is there that these changes will be successful?

Table G-1: Source of information for data points on Figure G-1 entitled "Annual Average of Total Gross Square Feet of Major Office Space Constructed in San Francisco from 1964-1983 and Projected from 1984-2000.

Years	Source of Information and Rationale for Data Points										
1964-1983 from DCP list	<p>This information is from "Major Office Building Construction in San Francisco Through 1983"; Table B-3, pages A-14 and A-15 of the Dratt Supplemental EIR of the Montgomery-Washington Office Building, July 23, 1984. This information is summarized below.</p> <p>Annual average of office space construction for five year periods. Graph G-1 plots the last year of each of these periods.</p> <table> <tr> <td>1960-1964</td><td>573,200 gross square feet annually</td></tr> <tr> <td>1965-1969</td><td>1,675,800 gross square feet annually</td></tr> <tr> <td>1970-1974</td><td>1,723,000 gross square feet annually</td></tr> <tr> <td>1975-1979</td><td>1,631,400 gross square feet annually</td></tr> <tr> <td>1980-1983</td><td>3,048,000 gross square feet annually</td></tr> </table>	1960-1964	573,200 gross square feet annually	1965-1969	1,675,800 gross square feet annually	1970-1974	1,723,000 gross square feet annually	1975-1979	1,631,400 gross square feet annually	1980-1983	3,048,000 gross square feet annually
1960-1964	573,200 gross square feet annually										
1965-1969	1,675,800 gross square feet annually										
1970-1974	1,723,000 gross square feet annually										
1975-1979	1,631,400 gross square feet annually										
1980-1983	3,048,000 gross square feet annually										
1984-1985 from DCP list	<p>Table B-2 of the above referenced DEIR entitled "Major Downtown Office Projects Under Construction" as of March 10, 1984 lists 5,985,900 gross square feet of office space currently under construction. Virtually all of these buildings will finish construction in 1984 or 1985. Therefore the annual average for these two years will be 2,992,950 gross square feet. The 1985 data point is therefore the annual average from 1984-1985.</p> <table> <tr> <td>1984-1985</td><td>2,992,950 gross square feet annually</td></tr> </table>	1984-1985	2,992,950 gross square feet annually								
1984-1985	2,992,950 gross square feet annually										
1986-1987 from DCP list	<p>Table B-2 of the above referenced DEIR entitled "Major Downtown Office Projects Under Construction" as of March 10, 1984 lists 5,658,275 gross square feet of office space currently approved by the Planning Commission, not yet under construction. Virtually all of these buildings will finish construction in 1986 or 1987. Therefore the annual average for these two years will be 2,892,135 gross square feet. The 1987 data point is therefore the annual average from 1986-1987.</p> <table> <tr> <td>1986-1987</td><td>2,892,135 gross square feet annually</td></tr> </table>	1986-1987	2,892,135 gross square feet annually								
1986-1987	2,892,135 gross square feet annually										
1984-2000 from DP EIR employ- ment based model	<p>The DP EIR states that there will be a demand for 16.8 million net square feet of office development in the next 16 years. This equals approximately 18.6 million gross square feet of office space. The square feet of new office development demand which the Downtown Plan EIR therefore predicts will come before City Agencies in the next 16 years is 7.0 million square feet as indicated below.</p> <table> <tr> <td>Downtown Plan prediction of 1984-2000 office demand</td><td>18.6 MSF</td></tr> <tr> <td>-Amount already approved or under construction</td><td>-11.6 MSF</td></tr> <tr> <td>Amount of office space for Plan. Com. App. 1984-2000</td><td>7.0 MSF</td></tr> </table> <p>Therefore the annual average for office building approvals in the next 16 years will be no more than 438,000 square feet.</p> <table> <tr> <td>1984-2000</td><td>438,950 gross square feet annually</td></tr> </table>	Downtown Plan prediction of 1984-2000 office demand	18.6 MSF	-Amount already approved or under construction	-11.6 MSF	Amount of office space for Plan. Com. App. 1984-2000	7.0 MSF	1984-2000	438,950 gross square feet annually		
Downtown Plan prediction of 1984-2000 office demand	18.6 MSF										
-Amount already approved or under construction	-11.6 MSF										
Amount of office space for Plan. Com. App. 1984-2000	7.0 MSF										
1984-2000	438,950 gross square feet annually										

"If the data in Table G-1 or Figure G-1 is inaccurate, the FEIR should contain a similar type table with corrected data to indicate what amount of office space from the 3/10/84 list is likely to finish construction by 1987 and to indicate how much of the 18.6 million gross square feet of office space predicted to be constructed by 2000 will remain for approval by City agencies from 1984-2000.

- " - When explaining the DEIR 'employment based' and 'list based' models for cumulative impacts, page 7 of the DEIR states that 'the two methods are not directly comparable'. The DEIR also states on page 6 that:

'the list-based approach uses known projects of certain types to represent future activity and assumes unchanging characteristics and behavior.' and,

'These two approaches are alternative means of assessing the future cumulative context for downtown development.'

"There is another major difference between these proposals. The 'employment based' approach predicts office development to the year 2000, while the 'list based' approach predicts only that office development that will occur by 1990. This is because almost all of the projects on the March, 1984 DCP list of projects under construction, approved, or under review will be completed in the next 4-6 years. To make an understandable comparison of the two approaches, the FEIR should make these approaches cover the same time frame.

"The 'list based' model should contain an estimate of office space built to the year 2000 based on historic trends from 1990-2000. By doing this the 'list based' approach will truly be an approach which 'assumes unchanging characteristics and behavior' until the year 2000 and it will be a true 'alternative means of assessing the future cumulative context for downtown development.' As it stands right now, the DEIR assumes zero development from 1990 to 2000 for lack of a better number. A number should be picked which reflects historic trends and utilized in the 'list based' approach to make it an alternative which can be compared to the DP EIR model.

- " - In discussions of the 'list based' approach the DEIR notes that all buildings on the list may not be completed until the mid-1990s. This may technically be true. However, projects already under construction and projects already approved will be completed well before 1990 and it is probable that 80% of the projects under formal review by the DCP will be completed by 1990. It is therefore likely that 90% or more of the 3/10/84 project list will finish construction by 1990.

"The FEIR should indicate how many projects and how many square feet of projects on the 3/10/84 list will be completed in each year from 1984 to the 1990s based on the DCP best estimate. This will allow a better comparison of the time frames of the list based approach and the downtown economic forecast approach.

- " - There is a lag time between the time a project sponsor applies for approval by the Planning Commission and the time the project finishes construction. This lag time is normally 4-6 years. The amount of square feet of projects in the formal review process is therefore a good indicator of what future demand will be. Figure G-2 shows a graph of illustrating a hypothetical relationship between the square feet of projects in formal review and the annual rate of construction of office space. This graph shows the lag time between project application and construction and the direct relationship between the two. It can therefore be used to predict future office construction based on applications in hand.

"If this type of graph were prepared for San Francisco office space applications and construction, one could determine the correlation between annual applications for and annual construction of office space and the lag time. Such a graph could be used to predict future development plans and test the validity of the Downtown EIR cumulative demand model.

"The FEIR should indicate the square feet of office space projects under formal review for in 1979, 80, 81, 82, 83, and 84. The FEIR should indicate whether the amount of space applied for is increasing or decreasing.

"The FEIR should indicate the annual number of square feet of office space under formal review for each year for the past 15 years and the square feet of office space which finished construction in each of those years. The FEIR should contain a table or a graph similar to that in Figure G-2 to demonstrate the relationship between projects under formal review and construction and to indicate the time lag between the two. Based on this information, the FEIR should discuss the reasonableness of the assumption that there will be a dramatic drop in the demand for office space in San Francisco." (David Jones, letter of 8/21/84)

"Basically when you boil down...these four EIR's, they say one thing: Planning changes and zoning changes will provide an economic disincentive, and we are going to have a drastic reduction in growth of office space. Like in 1980, I think that is a wish, perhaps a hope on the part of the Planning Commission. I see nothing in these models that tells me any reason to believe that that will happen or why it should happen.

"Perhaps it's like if you had something that cost you a dollar and you sold it for ten, and you doubled the price to two dollars that it cost you, you would think that that would be significant enough to deter something. But the fact you are now making \$8 profit rather than nine turns out to be less than sufficient deterrent. And I don't know how you quantify costs in here. I haven't seen how anybody can show that this really will decrease demand.

"In fact, in the Downtown EIR Consultant's Report, there was a computer model which, for specific lots in all the subareas, estimated the economic worth of developing there. When that consultant's report came out, I

requested of the Planning Commission if I could see that. They referred me to the consultant, who said that they no longer had any money, but if the Planning Commission would release it and they would fund it, then they would explain this model to me, but it was sort of proprietary because it might show where the good lots to develop were and weren't, and they really didn't want that in the public domain.

"So, basically I am here in the public being told there will be an economic disincentive as a result of this plan that will stop cumulative development. And these EIR's just reference that model. I have no reason to believe that will happen....

"A second problem I really have with all these EIR's,...they have what's called a list-based approach, and they had the Downtown EIR model. However, the list, they admitted, sort of stopped around 1990, so that the alternative list approach was not comparable. Well, this doesn't help me as a member of the public or you as decision-makers to make decisions when you have two alternatives and they say, 'Gee, we did two alternatives.'

"But actually you can't even compare the two, because one goes now to the year 2000 and one stops in around 1990 or 1991, when these buildings come on line. And the [four EIRs] note this deficiency.

"What I would like to see is a list-based approach alternative, which presumes a list that goes all the way to the year 2000, using perhaps historical projections to do that. And I think if you did that, use historical projections of the last five years, you'd end up with a list-based approach alternative that was much higher, but it would be comparable....

"We can't even see a worst case. We are only seeing two best cases, a model and a list that stops in 1990. Almost what I guess you'd call a 'no-project alternative,' status quo type approvals, isn't there. And none of the alternatives show that." (David Jones, Transcript)

"I have been doing some filing at home, and I came across a 1976 article from the San Francisco Examiner dated June 9, 1976, from Donald Canter, 'Skyscraper Boom is Slowing Down.' The lead is 'San Francisco's Construction Boom in Office Skyscrapers has Slowed to a Trickle.'

"I would reflect on that date, and I will reflect on why that may have occurred. June 9, 1976, was one month after there was a new Planning Director, Mr. Okamoto. Five months after, there was a Planning Commission appointed by George Moscone. There had been some changes that were evident to anybody in this City with an eye, anyone who came to the Planning Commission in 1976. Those changes came from policies. Those changes came from politics. Those kinds of changes don't factor into your methodologies....

"I would like you to do a list of projects that is more meaningful for me, maybe not for you, but for me it would be helpful to show not the year buildings come on line, but the year that they were approved. Do us a table back to 1965 for the buildings that you have there. Give us what

year they were approved by the Planning Commission. And also what year they opened. You can even put on all those projects that were never built so that we can get a sense of it.

"But what this list in here does is hides things. It obscures changes in policy. It obscures changed rates of growth that are affected by approvals, not construction. So tell us, year by year, all of the approvals by the Planning Commission, and add in all of the approvals -- you are going to have to figure out how you count approval by the Redevelopment Agency, and I don't relish having to do that. Figure in the redevelopment, because that's all the Embarcadero's. Figure in all of the buildings outside the C-3, because Pacific Lumber on the north side of Washington Street has just as much effect with its employees going across the Bay Bridge as Transamerica or Montgomery/Washington on the south side of Washington Street.

"So, add us in all of the office buildings of over 50,000 square feet outside the C-3 area. Tell us year by year. Tell us how the policies have changed, because that is the reality. I look at the number of buildings that were approved under the Moscone administration and I look at the number of buildings under the Feinstein administration, and I see there have been some policy changes here, and there have also been some Commission composition changes, which are irrelevant. I mean, it's like these things don't exist in your methodology." (Sue Hestor, Transcript)

"(1) These Supplemental EIR's incorporate the methodology introduced in to Downtown Plan EIR (EE81.3), which is still under review. The methodology is extremely questionable: its growth forecasts are unrealistically and unjustifiably low.... In fact, the 'Downtown Plan EIR' is not an EIR analyzing the Downtown Plan at all, but rather, a biased attempt to analyze the impacts of an arbitrarily assumed annual office growth rate of 840,000 gsf, ignoring non-C-3 District and regional growth impacts....

"In short, the Downtown Plan EIR's 'methodology' is a 'black box' - unvalidated and shielded from public scrutiny." (Carl Imperato, letter of 8/23/84)

RESPONSE

Two Different Approaches for Assessing Cumulative Impacts

The Supplemental EIRs use two different approaches for identifying the future downtown growth that is assessed as to cumulative impacts: (1) the "list-based" approach and (2) the "Downtown Plan forecast" approach. The two approaches provide two different cumulative contexts for assessing impacts. Each cumulative context is consistent with the standards set forth in the State CEQA Guidelines.

There are distinctions between these approaches which must be preserved in discussing them. The responses to comments are different for each approach. The approaches are clarified below with reference to the comments.

List-Based Approach

The list-based approach responds to the peremptory writ of mandate issued by the Superior Court pursuant to the direction of the Court of Appeals. The State CEQA Guidelines define the cumulative context as "the subject project together with other closely related past, present, and reasonably foreseeable probable future projects". In its peremptory writ, the Court goes on to specifically define "probable future projects". (See Peremptory Writ of Administrative Mandamus in Appendix A of the Supplemental EIRs.)

The lists used for the cumulative analyses in the four original EIRs were revised and made consistent in these Supplemental EIRs in accordance with the direction of the Court. The revised and expanded list includes those projects considered reasonably foreseeable, based on having an application requesting environmental analysis on file with the City. Because the list approach to cumulative analysis is based on specific known projects, it is reasonable and appropriate to establish a "cut off" for the list at applications received and accepted by the City rather than attempt to predict additional applications before their receipt.

Under the list-based approach, the future cumulative context in terms of the growth of buildings and space downtown is defined by the list of downtown office projects. The growth of downtown employment to be accommodated by the development of these projects is estimated by converting additional space into additional employment using employment density factors currently in evidence in downtown San Francisco as identified in the Downtown EIR Employer Survey (see Appendix E in the Supplemental EIRs).

The list-based approach for estimating the future growth of space and employment does not involve "complex analyses", "computer models", "unjustified assumptions", or the use of "an unfathomable black box" as alleged in the comments. It is a straight-forward approach that should be relatively easy to understand. The list-based approach does not incorporate any conclusions about the effects of changes in policies such as the proposed new downtown zoning.

Downtown Plan Forecast Approach

The Supplemental EIRs also identify the cumulative context using the Downtown Plan forecast approach. This approach is included as an alternative to the list-based approach. Growth forecasts using the Downtown Plan approach are included in the Supplemental EIRs because they define the cumulative context in the Downtown Plan EIR. Moreover, this approach incorporates the effects of changes in downtown zoning policy on future growth, specifically the effects of the proposed Downtown Plan and Alternatives. Although the projects for which these Supplemental EIRs were prepared, were approved and their original EIRs were reviewed by the Court some time ago, the cumulative analysis in the Downtown Plan Draft EIR was completed by the time the Draft Supplemental EIRs were prepared, and it is included in the

Supplemental EIRs for comparative and informational purposes. If the Downtown Plan forecast approach had not been included in the Supplemental EIRs, it was expected that questions would arise about how the cumulative impacts using the list-based approach compared to those identified in the cumulative analysis in the Downtown Plan EIR.

The Downtown Plan forecast approach presents a cumulative scenario for C-3 District land use change and employment growth between 1984 and 2000. This approach provides growth forecasts based on analysis of policies affecting the size, cost, and location of new development, in the context of underlying local and regional economic conditions influencing the demand for space. These forecasts identify the likely rate of absorption of space in projects already approved. They also identify the additional space expected to be built and occupied by the year 2000 in response to the demand for space to accommodate employment growth and consistent with the ability to add space under future policies. The purpose of the forecast approach was to identify long term growth under proposed policies which would represent a change from current and past policies.

The methodology for the Downtown Plan forecasts is not described in detail in the Supplemental EIRs since it is explained in the Downtown Plan EIR. It is a more complex methodology than the list-based approach since it considers the effects of more factors and considers changes over time in existing conditions in addition to the changes due to growth. Contrary to the statements in the comments, the methodology is not based on a "computer analysis which is an unfathomable black box". The approach does not use an overall computer model; one of the component analyses involving a large number of calculations was done on a computer. The methodology involves several other analyses and assumptions. All of these are explained and justified in the Downtown Plan EIR and clarified in that EIR's Comments and Responses. It may be relatively more difficult to understand this methodology than to understand the list-based approach, because the forecast approach combines a variety of analyses and data sources, rather than relying on a single factor such as the list. It also takes more time and effort to read the explanations of the forecast methodology. While training in economics may be required to prepare the forecasts, it is not the intent that a background in economics is needed to understand the basic approach as was suggested in the comments. Responses to specific comments about the methodology for the Downtown Plan forecast approach are presented in a separate section of these responses to comments and are not discussed further here. A detailed explanation of the methodology can be found in the Downtown Plan EIR itself with clarification provided particularly in Sections B.1 and B.2 of that EIR's Responses to Comments.

Differences Between Two Approaches

The Supplemental EIRs identify and describe each approach for estimating cumulative downtown growth. A summary chart describes each approach and compares and contrasts them (see Figure 3 in the Supplemental EIRs). This format was chosen so that the important differences

would be highlighted for decision-makers and the public. It was the intention that a summary chart would be easier to read and understand than a longer text.

The Supplemental EIRs explain that "the two approaches are alternative means of assessing the future cumulative context for downtown development" (see Figure 3 and associated text). The text goes on to state that "because of several essential differences between the two approaches, estimates of the cumulative effects derived from each approach cannot be directly compared". The summary chart describes these differences.

One commenter points out that the approaches differ in their time frames. That is one of the essential differences described in the summary chart (Figure 3). The Downtown Plan EIR forecast approach describes the changes in land use and employment that are forecast to occur between 1984 and 2000. Under the list-based approach, changes in land use and employment are determined by the build-out of the list of projects. These are the projects on the March 10, 1984 List of Cumulative Office Development In Downtown San Francisco (see Appendix B in the Supplemental EIRs). Although no date is attached to this build-out, it is estimated in the Supplemental EIRs that it would take until sometime between 1990 and 2000 for space represented by the projects on the list to be built and occupied.

There are other equally important differences between these approaches that are explained in the Supplemental EIRs but not mentioned in the comments. The geographic areas covered are not the same, and the land uses included in the estimates of growth are different. Regarding differences in geographic areas, the forecasts using the Downtown Plan forecast approach focus on land use and employment in San Francisco's C-3 District, the area covered by the proposed Downtown Plan. The list-based approach includes projects in the greater downtown area, including both the C-3 District and adjacent areas. Although the list-based approach covers growth in a larger area than the Downtown Plan forecast approach, most of the projects on the list are in the area covered by the Downtown Plan (C-3 District).

Regarding the differences in land uses, the Downtown Plan forecast approach incorporates changes over time in all types of land uses, including office, retail, hotel, and industrial space and employment. This approach incorporates changes in the use of space (both existing and new) over time as well as the addition of new space. The list-based approach is limited to the addition of office and retail space and assumes that the intensity of use of space does not change over time.

Comments on Cumulative Approaches can be Grouped into Two Categories

The comments received on the cumulative approaches generally apply to one or the other approach. There is a group of comments which questions the forecasts of downtown growth developed for the Downtown Plan EIR. These comments allege that the office development forecasts are so low as to weaken their credibility and cast doubt on this approach

and methodology. The rest of the comments are directed to the list-based approach requested by the Court. These comments request that the list of projects be extended by assuming future development occurs at recent construction rates. They also ask for additional information about recent and past project approvals and construction. The next two sections address the comments under each of these major topics. Table C&R E.4 at the end of this response presents space and employment estimates developed using the Downtown Plan EIR approach and the list-based approach. The table provides background information relevant to the following responses.

Evaluation of Downtown Plan Forecasts of Future Office Development

Comments address the future office development forecast under the Downtown Plan EIR approach and attempt to compare the forecast with past rates of construction and with recent project approvals. Based on the tables and graphs presented in the comments, one commenter concludes that the forecasts are too low and that they reflect "a stop in economic activity in San Francisco of a magnitude unprecedented since the 1929 depression". This commenter goes on to state that the low forecasts weaken the credibility of the Downtown Plan forecast approach and methodology.

The figures derived by the commenter and the comparisons between past and forecast future office development as presented in the comments are not accurate. The forecasts are not as low as shown in the comments. Further, they do not reflect a dramatic slowing of economic growth in downtown San Francisco, as alleged. The subsections which follow use correct data and information to present the tables and comparisons attempted in the comments.

Derivation of Comparable Information on Past and Forecast Future Office Building Construction

The commenter presents tables and graphs in an attempt to compare office building construction as forecast for the C-3 District under the Downtown Plan EIR forecast approach with data on past office construction in major office buildings in San Francisco. To make such a comparison, it is important to recognize that the forecasts of office building construction as presented in the Downtown Plan EIR and the historic data for major office building construction presented in Appendix B of the Supplemental EIRs are not directly comparable without some adjustments. There are three types of differences.

First, the Downtown Plan EIR forecasts identify the space in office building projects that would be built and occupied by the year 2000 that would be an addition to the space in office building projects built in 1984. These forecasts are not comparable with the City's tabulation of historic office building construction which identifies space built according to the date of issuance of building occupancy permits (when constructed and ready for occupancy; not when fully occupied). In order for the Downtown Plan forecast to be comparable, an estimate must be made of the space that would be built by 2000 but

not yet occupied at that time. When this estimate is added to the space forecast to be built and occupied by 2000, it provides a forecast of office building construction through the year 2000 that can be compared to the tabulations of historic construction.

Second, there is a difference between the time period used to establish the setting for the Downtown Plan EIR forecasts and the cut-off date for the historic data on office building construction. The 1984 setting in the Downtown Plan EIR includes space in projects built in 1984, whereas the tabulation of historic office building construction ends in 1983. Thus, there are projects in the 1984 setting for the Downtown Plan EIR which are not included in the Downtown Plan forecasts of future space or in the tabulation of historic construction. To compare the Downtown Plan EIR forecasts with the historic data, the space in projects assumed to be built in the 1984 setting should be included in the tabulation of historic office building construction. With this change, the historic construction data reflect a 1984 base that is comparable to the 1984 setting in the Downtown Plan EIR.

Third, the Downtown Plan EIR forecasts and the data describing historic office building construction do not cover the same geographic areas. The difference arises because the Downtown Plan EIR focuses on San Francisco's C-3 District, the area that would be subject to new policies and new zoning under the Plan or the Alternatives, whereas the historic data is for the total City. In the past, the large majority of major office building construction in San Francisco occurred in the C-3 District. Thus, there was a relatively small difference between the citywide construction of major projects and construction in the C-3 District. In the future, however, it is expected that the C-3 District would include a smaller share of major office building construction in the City than occurred in the past, particularly under the proposed Downtown Plan. Therefore, the Downtown Plan EIR forecasts of C-3 District office development are not directly comparable to the historic data on citywide office building construction and would be expected to be lower than the past totals citywide. Unlike the two differences described above, this third difference cannot be accounted for by adjustments to the forecasts, because detailed forecasts using the Downtown Plan forecast approach have not been prepared for the total City. Instead, in the following tables and text, the Downtown Plan EIR forecasts for the C-3 District are compared to the historic data for the total City and the differences that might be expected are discussed qualitatively. In reviewing the comparisons which follow, the reader should keep in mind that the Downtown Plan EIR forecasts cover a smaller area than do the historic data on major office building construction.

Accounting for the factors described above, Table C&R E.1 presents a comparison of future office building construction in the C-3 District under the Downtown Plan forecast to the historic data describing major office building construction in the City. Table C&R E.2 identifies how the estimate of office building construction through the year 2000 was derived from the Downtown Plan EIR forecast. The notes in Table C&R E.1 describe how the adjustment was made to add projects built in

TABLE C&R E.1: OFFICE BUILDING CONSTRUCTION AS FORECAST FOR THE C-3 DISTRICT UNDER THE DOWNTOWN PLAN EIR APPROACH COMPARED TO HISTORIC CONSTRUCTION OF MAJOR OFFICE BUILDINGS IN SAN FRANCISCO

MAJOR OFFICE BUILDING CONSTRUCTION (gross sq. ft. building space not accounting for demolition)	
<u>5-Year Citywide Annual Average</u>	
1960-64	573,200
1965-69	1,675,800
1970-74	1,723,000
1975-79	1,631,400
1980-84 (a)	2,758,800
<u>25-Year Citywide Annual Average</u>	
1960-84 (a)	1,672,400
<u>16-Year Annual Average for C-3 District Under Downtown Plan(b)</u>	
1984/85-2000(c)	1,194,300

NOTE: For the historic data, office projects are assigned to certain years based on the date of issuance of the building occupancy permit. With the exception of the 1980-84 five-year period, the historic data are from the Department of City Planning compilation of Major Office Building Construction in San Francisco Through 1983 (see Table B-3 in the Supplemental EIRs). For the purposes of this table, the estimate for 1984 includes six projects on the March 10, 1984 list of Cumulative Office Development in Downtown San Francisco (see Table B-2 in the Supplemental EIRs). These six projects include three of the four projects that are the subject of the court case for which these supplements were prepared. (The Spear/Main project is not included in the Downtown Plan EIR 1984 setting because it was only an approved project at the time the setting and forecasts for the Downtown Plan EIR were prepared.) All six projects were added to the 1980-83 data to provide an estimate of construction through 1984. These six projects (totalling 1,602,000 gsf of space), plus others completed before 1984 and already included in the totals for construction through 1983, were included in the 1981 to 1984 estimate of office building construction for the Downtown Plan EIR. Therefore, because the rest of this table compares the Downtown Plan EIR forecasts through the year 2000 with the historic data, projects assumed to be completed by the end of 1984 in the Downtown Plan analysis (though not yet fully occupied) are added to the projects completed earlier in the 1980s to provide a comparable setting for construction through 1984.

- (a) An estimate for 1984 has been added to the 1980 to 1983 data on the DCP list (Table B-3) as described in the note above. This is now a five-year period and includes the projects incorporated in the 1984 setting in the Downtown Plan EIR. The 2,758,800 five-year annual average is less than the 3,048,000 four-year annual average shown in Table B-3 in the Supplemental EIRs. This is because the estimate of space constructed in 1984 is less than the average annual amount for the preceding four years.
- (b) The forecasts of future office building construction under the Downtown Plan focus on the C-3 District whereas the historic data include total citywide office building construction. The text describes the differences that might be expected because of the differences in geographic areas.
- (c) The derivation of this estimate for the Downtown Plan forecast approach is outlined in Table C&R E.2, following. This estimate covers the 16-year Downtown Plan EIR forecast period, referred to in the EIR as the 1984-2000 period, measured from the end of 1984 through the year 2000. The 1960-1984 historic construction data in this table include the year 1984.

SOURCE: Department of City Planning, March 15, 1983 and Recht Hausrath & Associates

C-3 District Office Building Construction (gross sq. ft. of building space not accounting for demolition)		Future C-3 District Office Building Approvals (gross sq. ft. of building space not accounting for demolition)	
Space in office projects built and occupied, 1984/85-2000	18,268,000(a)	Space in office projects built and occupied, 1984/85-2000	18,268,000(a)
In 2000, space in office projects built, but not occupied by that time	840,000(b)	In 2000, space in projects built, under construction, or approved, but not occupied by that time	3,360,000(b)
Total space in office projects built 1984/85-2000	19,108,000	Space in C-3 District projects approved or under construction as of March 1984 list and not in 1984 setting for Downtown Plan EIR	(6,008,700)(c)
Annual average construction	1,194,250	Total space in office projects approved through the year 2000 that were not approved on March 1984 list	15,619,300
		Annual average approvals	932,500(d)

NOTE: The calculations presented here provide background for Table C&R E.1 and for the text discussion. The estimate of annual average construction in the C-3 District under the Downtown Plan was prepared for comparison with the citywide data on historic construction in major office building projects (as shown in Table C&R E.1). The estimate of annual average project approvals for the C-3 District under the Downtown Plan was prepared in response to comments. The estimate for project approvals cannot be directly compared to the historic data on office building construction.

- (a) From Table IV.B.12 in the Downtown Plan EIR. The forecasts cover the period from the end of 1984 through the year 2000. The office space forecasts presented in the Downtown Plan EIR incorporate a long-term average vacancy rate of five percent, i.e., five percent of all space built and occupied in the future is assumed to be vacant. This five percent vacancy rate is included in the 18,268,000 sq. ft. shown as "space built and occupied".
- (b) Based on the assumption of an average of one-year for lease-up to full occupancy and three years for construction (after approval). (See p. IV.B.21 of the Downtown Plan EIR.) The average annual rate of office project development is assumed to be 840,000 based on the 1990-2000 forecast for the Downtown Plan. Therefore, in 2000, there would be about 840,000 sq. ft. in office projects already built but not yet occupied. There would also be 2,520,000 sq. ft. of space in office projects already approved, for a total of 3,360,000 sq. ft. (4 x 840,000) of space.
- (c) C-3 District projects approved on March 10, 1984 list of cumulative office development, plus C-3 District projects under construction on March 10, 1984 list not including the six projects in the 1984 Downtown Plan EIR setting that are still on the March 10, 1984 list (see Table C&R E.1).
- (d) Annual average approvals calculated by assuming 16.75 years from the March 1984 list through the year 2000. This differs from the estimates of annual average construction where the time period for construction is from the end of 1984 (per the Downtown Plan EIR setting) through the year 2000.

SOURCE: Recht Hausrath & Associates

1984 to the tabulations of historic construction so as to be comparable to the 1984 Downtown Plan EIR setting. Both the historic data and the forecast shown in Table C&R E.1 describe office building construction (not approvals or occupancy).

As shown in the tables, it is forecast that, under the Downtown Plan, 19.1 million sq. ft. of space would be built in office building projects in the C-3 District from the end of 1984 through the year 2000. (Note that this estimate does not adjust for space demolished.) The annual average construction over this 16-year period of 1.2 million sq. ft. of space in office building projects in the C-3 District under the Downtown Plan is the correct figure to use for comparing the Downtown Plan forecast with the historic office building construction data.* The number derived by the commenter (438,950 sq. ft. per year in Table G-1 of the letter from David Jones dated Aug. 21, 1984) is not accurate. In his calculations, the commenter did not make the adjustments described above so that the forecasts from the Downtown Plan EIR can be compared with the historic construction data. Of greater consequence, however, the commenter attempted to estimate office building approvals (not construction) and then, to compare future approvals with past construction. This comparison is not valid. Beyond that problem, the estimate of project approvals derived by the commenter is not correct.

Information on future project approvals that would be consistent with the Downtown Plan EIR forecasts is provided in Table C&R E.2 for purposes of clarifying the forecasts and demonstrating the appropriate procedures for deriving such estimates. Given the forecasts of office building construction through the year 2000 under the Downtown Plan, about 15.6 million sq. ft. of space in office building projects in the C-3 District would be approved through the year 2000 over and above those C-3 District projects approved as of the March, 1984 list. That total would represent an average approval rate of about 930,000 sq. ft. per year over the period from the end of March, 1984 through the year 2000. During this period, the annual average rate of C-3 District office building construction (1.2 million sq. ft.) is expected

* The 1.2 million sq. ft. per year on average over 16 years is consistent with the Downtown Plan 1990-2000 forecast representing 840,000 sq. ft. per year on average over these 10 years, as presented in Table IV.B.12 in the Downtown Plan EIR. In fact, the 10-year forecast is included in the 16-year total. The difference in annual average construction is explained by the fact that the 10-year 840,000 sq. ft. annual average is based on the 1990-2000 forecast when the Plan has an effect, while the 1.2 million sq. ft. annual average is for construction during the 16 years from the end of 1984 through 2000 which includes construction of projects approved prior to the adoption of new C-3 District policies (those built between 1984 and 1990). The average annual amount of space built during the 1990's would be lower than in the 1980's, because of the effects of the proposed Plan.

to be larger than the annual average rate of office building approvals (930,000 sq. ft.), because the amount of space already approved but not yet built (as of March 1984 list) is larger than the average * amount expected to be approved but not yet built in the year 2000.

These estimates of future project approvals associated with the Downtown Plan EIR forecast for office development in the C-3 District differ from those derived by the commenter. The estimates presented in the comments: a total of 7.0 million sq. ft. for Planning Commission approval 1984-2000 and 438,950 sq. ft. approved annually are not correct; they are too low. Two errors were made. One was to subtract the space in projects approved and under construction throughout the greater downtown area (instead of the space in only those projects in the C-3 District) from the space forecast for the C-3 District. The second was to omit consideration of space that would be approved by 2000 but not yet built and occupied by then (since the forecasts in the EIR describe only the space that would be occupied by 2000 as discussed above).

Office Development Forecasts Indicate a Slowing of Development in the C-3 District in the Future

The information described above indicates that 19.1 million sq. ft. of space in C-3 District office building projects is forecast to be built through the year 2000 under the Downtown Plan in addition to the space built in 1984. This amount of development implies an average rate of construction of about 1.2 million sq. ft. per year. Comparisons to past citywide office building construction are provided in Table C&R E.1. The C-3 District forecast does not reflect a dramatic slowing of downtown development as alleged by the commenters. The forecasts do reflect lower rates of development in the C-3 District in the future as compared to the past, particularly the more recent past. There are several reasons why this forecast is expected.

* It should be noted that the estimates of space to be built but not yet occupied in 2000 and of space to be approved but not yet built are based on long term annual averages. No effort was made to estimate the potential effects of future short-term building cycles. Thus, the difference between the forecast annual average rates of construction and approval is not solely due to the lower long term rates of development under the Downtown Plan but can be explained, in part, by the large amount of space in projects that, as of March 1984, are under construction or approved but are not yet completed or occupied (about six million sq. ft.). This recent pattern represents a stage in a short-term building cycle. In the year 2000, there would presumably also be a list of major office projects that reflected the stage of the building cycle at that time, not necessarily the annual averages used here. For the purposes of these forecasts, it is not possible to estimate what stage of the building cycle would be in evidence in 2000; therefore annual average estimates are used.

Recent Rates of Development Will Not Be Sustained over the Long Term. As described in the Downtown Plan EIR, the rate of recent development has exceeded the rate of occupancy of the additional space (pp. IV.B.15-IV.B.16 and IV.C.26). This is evidenced by higher than average vacancy rates and by conditions of a "buyers' market" in that rents have not been increasing and competition for tenants has often resulted in rent reductions for an initial period or more favorable longer term leases. Thus, some of the employment growth to occur over the next few years will be accommodated in space already constructed. Over the long term, higher construction in the recent past will be offset by lower construction in a later period as employment "catches up" with development.

The large amounts of recent development reflect a combination of national and local factors. During the late 1970's and through at least 1980, the economy generated an increase in the demand for office space that exceeded the supply of new space. The vacancy rate was low and office rents experienced large increases. These conditions made commercial real estate particularly attractive to financial markets and developers. The result has been a large number of office building projects. In the early 1980's, the rate of new building has exceeded the rate of absorption of the new space. This same scenario exists in other American cities as well as in San Francisco.* In addition to the above factors, there was an added impetus to development in San Francisco because of uncertainties about changing land use policies. There has been a "rush" to build because of anticipated changes in downtown zoning controls that would limit future development.

The Downtown Plan Will Affect Future Office Development. Changes in C-3 District zoning under the Downtown Plan are expected to have an effect on future office development. As described in the Downtown Plan EIR on pages IV.B.36-IV.B.43, changes in zoning controls would reduce the availability of sites for major projects, would reduce the size of new buildings, and would affect project feasibility. These changes would combine to result in a lower rate of office development in the C-3 District.

* Nationally, downtown office vacancy rates have been on the rise since late 1981 according to Coldwell Banker's office vacancy index, which stood at 13.5 percent in June, 1984 and at a low of 3.8 percent in March, 1981. The most significant factor behind the continued upward trend reflected in the June 1984 index "remains the supply of uncommitted new and rehabilitated space nearing completion". In December 1983, Coldwell Banker reported downtown office vacancy rates of around 20 percent (the highest in the country) in Denver, San Diego, New Orleans and Portland. These cities are the most extreme cases in which the new space available continues to outpace demand. (Urban Land Institute, Land Use Digest, Volume 15, No. 8, and Volume 17, Nos. 2 and 8.)

The main reason for the lower rate of office development under the Downtown Plan is the fact that there would be less demand for C-3 District space as a result of Plan policies. With fewer development opportunities in the north of Market locations most preferred by office tenants willing and able to pay high rents, increased competition for available space will result in overall higher rents. Over time, as major office tenants reevaluate their space needs relative to location options, some potential occupants would shift to locations south of Market [in the C-3-0 and C-3-0 (SD) areas], some would choose to locate outside the C-3 District, and others would use existing C-3 District space more intensively (with more employees in a given amount of space). The latter two changes would reduce the demand for additional C-3 District office space and, thus, support a lower rate of office building development.

As the major office core shifts into the southern C-3-0 and C-3-0 (SD) areas, the locations for other office functions which are generally at the periphery of the downtown core would shift outside the C-3 District. By shifting south, the area of downtown office activity expands beyond the boundaries of the C-3 District. Thus, in the future, less of the growth of downtown office activity would occur in the C-3 District as compared to past growth patterns.

Although the Plan's strategy to redirect the location of office development into the southern C-3-0 and C-3-0 (SD) areas would work, it is expected that it would slow the rate of office development for a period of time until market adaptations to the new policies occurred. Because of the distinctions made by office tenants, locations south of Market are not directly substitutable for the north of Market locations to be preserved under the Downtown Plan. The Plan's strategy would require that tenants reevaluate their locational preferences (location and type of space relative to price), that developers and lenders wait for market evidence that demand will shift further south and that tenants will pay the higher rents needed for project feasibility, and that owners of historic buildings evaluate the effect and permanence of the preservation policies before deciding to sell TDRs. As a result, it is forecast that the rate of office development would slow during the 1990's to allow for this transition. This is a second reason why the Downtown Plan forecasts reflect slower growth in the future as compared to the recent past.

The C-3 District Will Provide a Smaller Share of Citywide Office Development in the Future. Compared with the past, office development in the C-3 District will represent a smaller share of total citywide office development in the future according to the forecast. To some extent, this trend reflects the using up of sites in the central office areas and the expansion of the office core into adjacent areas, particularly south of the C-3-0. Comparison of the locations of recent projects with development in earlier years indicates that this pattern is already underway. In the future, the Downtown Plan's policies would accentuate this trend. As Plan policies redirect the office core into the southern C-3-0 areas, the locations for other office functions which are generally at the periphery of the downtown

core would shift outside the C-3 District. Thus, in the future, a smaller proportion of the growth of downtown office activity would occur in the C-3 District as compared to past growth patterns.

As a result of this pattern, comparisons which show lower C-3 District development in the future as compared to total citywide development in the past do not necessarily indicate that future, citywide development would be lower than in the past. As explained in the Downtown Plan EIR, it is expected that there would be proportionally more development in City areas outside the C-3 District in the future. The extent of this shift also depends on the zoning policies currently under review for the areas to the south of the C-3 District.

Under the Downtown Plan Forecasts, Office Employment Growth Exceeds the Development of Office Space. The three reasons described above explain why it is reasonable to expect the forecasts of future C-3 District development to be lower than the past rates of office development citywide, particularly those of the recent past. In evaluating whether the forecasts are reasonable and credible, there is an additional aspect to consider. This issue concerns the fact that under the Downtown Plan the rate of office employment growth is forecast to exceed the rate of growth of office space during the 1990's. Because of the strength of demand for space in the C-3 District, businesses would take steps to use existing space more efficiently when faced with higher rents (as explained above). In addition there would be strong pressures to upgrade and convert existing space to office uses. Reviewing the forecasts of office development (as in the comments) is only a partial evaluation of economic growth under the Downtown Plan.

Second, employment growth provides a more direct link to certain cumulative impacts than does building development. For example, transportation and housing impacts are a result of employment growth. The employment growth is accommodated in new space as well as through changes in the use of existing space. Thus, the argument in the comments that cumulative impacts are underestimated because the forecasts of office development are too low does not consider the forecasts of employment growth which account for growth in addition to that accommodated by new space. In considering the accuracy of the estimates of cumulative impacts, it is important to evaluate the forecasts of employment growth. Although the development of new office buildings would accommodate most of the employment growth that is forecast, growth accommodated through changes in the use of existing space must also be included.

The Forecast Approach Incorporates Effects of Downtown Zoning and Planning Policy

The forecast of growth under the Downtown Plan described above has a basis in historical perspective and in common sense. The lower rates of future growth reflect the effects of the changes in policy incorporated in the Downtown Plan, and are not the result of the basic structure of the approach used in this analysis. The same approach

and methodology can be used to forecast downtown growth under different future policies. In fact, in the Downtown Plan EIR, six different sets of policies were analyzed and the result was six different forecasts of downtown growth.

This same Downtown Plan EIR forecasting approach was used to develop forecasts of future growth in the C-3 District assuming that the current Planning Code continues to apply in the future with no changes in policy (Alternative 1 in the Downtown Plan EIR). Alternative 1 (the No Project Alternative in the Downtown Plan EIR) fulfills the requirements of the "status-quo" alternative for cumulative downtown development. A comparison of the forecasts of office building construction and approvals in the C-3 District by the year 2000 under the Downtown Plan and Alternative 1 is provided in Table C&R E.3.

TABLE C&R E.3: FORECASTS OF MAJOR OFFICE BUILDING CONSTRUCTION AND APPROVALS IN THE C-3 DISTRICT THROUGH THE YEAR 2000 UNDER ALTERNATE ASSUMPTIONS ABOUT DOWNTOWN ZONING POLICIES

	<u>DOWNTOWN PLAN</u>	<u>ALTERNATIVE 1 (Continuation of Present Planning Code)</u>
Construction of Major Office Building Projects, 1984/85-2000		
Total Space Constructed	19.1 million sq. ft.	28.5 million sq. ft.
Annual Average Construction	1.2 million sq. ft.	1.8 million sq. ft.
Approval of Major Office Building Projects, March 1984 List-2000		
Total Space Approved	15.6 million sq. ft.	27.6 million sq. ft.
Average Annual Approvals	0.9 million sq. ft.	1.6 million sq. ft.

NOTE: For the Downtown Plan forecast, the estimates in this table are from Table C&R E.2. The estimates for Alternative I were derived using the same methodology as that explained for the Downtown Plan forecast in Table C&R E.2.

SOURCE: Recht Hausrath & Associates

The forecasts indicate that there would be more C-3 District office building construction in the future under the existing Planning Code policies than under the new policies of the Downtown Plan (1.8 million sq. ft. per year on average as compared to 1.2 million sq. ft. per year). Compared to the citywide totals in the past (from Table C&R E.1), the future long-term rate of construction under Alternative 1 is very similar to the long-term rate indicated by the historic data (1.7 million sq. ft. per year on average from 1960-1984, see Table C&R E.1).

The long term average for the Alternative 1 C-3 District forecast indicates somewhat more construction than occurred in the 1960's and 1970's but less than occurred in the first part of the 1980's. Even without a change in policies, the high rates of building in the recent past are not expected to continue over the long term.

This comparison demonstrates that the methodology and approach for the Downtown Plan forecasts are not so flawed that they lack credibility and cannot be used. The methodology and approach are designed to be sensitive to different C-3 District policies, because it was the purpose of the forecasts to provide estimates of growth for assessing the impacts of policies that affected C-3 District growth and development. Different forecasts result from different policy assumptions. There are at least 200 pages in the Downtown Plan EIR (Section IV.B and IV.C and Appendices G and H) plus an additional 50 pages in the Downtown Plan EIR Comments and Responses (Sections B.1-B.3) which explain the rationale and basis for the forecasts. (These sections are, or have been, incorporated by reference and summarized in the Draft Supplemental EIRs and in these Responses to Comments.)

It is also important to remember that the forecasts prepared using the Downtown Plan EIR approach focus on the C-3 District, not the total City. As explained in the Downtown Plan EIR and above, with lower C-3 District growth under the Downtown Plan there could be more development in other City areas outside the C-3 District than would occur under policies like those of Alternative 1. Thus, the Downtown Plan would make less difference in total citywide development than in the development in the C-3 District.

This perspective relates to the comment which asks "how the request by Southern Pacific Land Corporation to build 11 million sq. ft. in San Francisco can be reconciled with the fact that there is a diminishing demand for office space projected?". First, it should be noted that it is difficult to comment with any degree of certainty on the Mission Bay project since it is still undefined and much of it would be built and occupied after the year 2000 (see also Responses in Section B.2, Scope of Supplemental EIR). Generally, however, interest in developing Mission Bay is not inconsistent with the forecasts for the Downtown Plan. Less development in the C-3 District would support the potential for more development in other areas of San Francisco including Mission Bay. The policies of the Downtown Plan and the resultant higher rents for C-3 District space would increase the demand elsewhere for lower rent space of the type that could be provided in Mission

Bay. In other words, potentials for development in Mission Bay could be evidenced sooner with the Downtown Plan than with continuation of current policies.

The comments specifically refer to how zoning and planning policy affect C-3 District office development. The two commenters who address this issue contradict each other. One commenter states that changes in policies and in politics are the key to identifying what will be approved and built in the future. She goes on to request that assumptions about future policies should be factored into the forecast methodologies and that the forecasts are incorrect because these kinds of changes are important and they have been left out of the analysis. The other commenter states that he does not see any basis for the conclusion that the changes in policies would affect future development. He cites the elimination of bonuses and the institution of discretionary review in 1981 and explains that, although these past changes were anticipated to slow the rate of office development, they did not have that effect. He states that he does not believe that any economic disincentives for development as a result of the Plan would be strong enough to slow development.

In response to the first commenter: the effects of policies are factored into the Downtown Plan EIR forecasts. In fact, the major reason why forecasts were specifically prepared for the Downtown Plan EIR was to incorporate the effects of changes in policies regarding downtown development (also see the subsequent response specifically addressing the rationale and methodology for the Downtown Plan forecasts). The importance of policies is also one of the major reasons why the historic building construction data or a list of approved projects cannot be directly used as long-term indicators of future development. The list of projects under construction and approved is only useful as a short-term indicator of future development. Once all the projects on the list are built and occupied, development will continue. The list is not useful in predicting these future approvals and amounts of development for a longer time into the future. The rules that applied to past projects would be different in the future. As the commenter states, the policies are a very important aspect of the forecasts. For the Downtown Plan EIR, six different forecasts (the Downtown Plan and five Alternatives) were prepared to describe the future under different sets of policies. The differences in the forecasts among the Plan and the Alternatives reflect the effects of the policies. Table C&R E.3 and associated text above demonstrate this with a comparison between the Downtown Plan and Alternative 1 forecasts.

Politics are factored into the Downtown Plan EIR approach to the extent that politics are embodied in the changes in policies evaluated in the Downtown Plan EIR. In other words, to the extent that proposed changes in development policies reflect changes in the political climate, then politics are factored in. For developing the forecasts, it was assumed that the policies under evaluation would remain in effect through at least the year 2000.

In response to the other commenter: the economic analysis and forecasts of C-3 District growth under the Downtown Plan indicate that the changes in policy would have an effect on downtown office development. The aspects of the Downtown Plan which would be responsible for these effects are summarized earlier in this response and described in the Downtown Plan EIR (pp. IV.B.36-IV.B.43). The effects of the Plan are not primarily those of economic disincentives for developers (in terms of the reduced feasibility of projects) as stated by the commenter. Of more importance are the Plan's direct effects on the supply of* space that could be built in the more desirable office locations.

By limiting the sites that can be built on and the size of new buildings, the Plan would directly limit the space that could be added in office locations north of Market Street. The issue then focuses on whether all of the development that would have otherwise occurred north of Market Street would occur instead south of Market in the southeastern portion of the C-3 District. The forecasts indicate that this would not be the case and that there would be somewhat less development of the C-3 District by the year 2000 (about one-third less than would occur from 1984 to 2000 under Alternative 1 which assumes no similar restrictions on the location and size of new buildings, according to existing Planning Code policies).

The reasons for this expected result relate to the demand for office space in the C-3 District and to how tenants will evaluate the availability of and rents for space in the future. There are tenants who would pay more for space in preferred locations rather than accept another choice. As a result of the strong preferences for available space and in reaction to higher rents, existing space would be used more intensively; thus, existing space accommodates employment growth and the demand that would otherwise exist for the development of new space is reduced somewhat. Other tenants would decide to pay the rents for new office space south of Market Street, while still others would locate outside the City. The result would be less

* It is important to understand that the effects of Plan policies on office development are not simply the result of lower returns for C-3 District development. The supply of space that could be built and the reaction of tenants to the space supply conditions of the Plan are the important considerations. The comments refer to the computer analysis of real estate feasibility and suggest that those calculations were the sole determinants of the impacts of Plan policies. That analysis was only one of the components of the forecasting process. It is not possible to determine the full implications of the new zoning policies from only that portion of the work. In response to the request to review this real estate feasibility portion of the forecast, the material is available for public review by appointment, in the Department of City Planning files (see Downtown Plan EIR Comments and Responses Section B.1.4.10, p. C&R-B.23).

development in the C-3 District than would otherwise have occurred. As development shifts to the C-3-0 areas south of Market Street, rents would be higher there as well. In the process, there would be lower-rent-paying tenants who choose locations outside the C-3 District (including small businesses and larger-space users). The result of these shifts would also be less development in the C-3 District as compared to Alternative 1.

The comments about the effects of the elimination of bonuses and the institution of discretionary review in 1981 on office development are not directly relevant to the impacts of the Downtown Plan policies. There are different and more substantial and far-reaching changes proposed under the Downtown Plan, and any effects of prior measures cannot be used to gauge the likely effectiveness of the Downtown Plan.

It is true that the rates of office building construction and of applications have not decreased since the changes in policies in 1981. However, many of the projects built since then were approved under the previous policies. Further, many of those approved since then were grandfathered so that the former rules still applied. Separate from the policies, there were other factors which were different in the early 1980's as compared to previous years. As explained earlier, higher rates of development were in response to more favorable market conditions and to expectations of more restrictive downtown zoning controls in the future. Thus, any effects that the 1981 policy changes might have had on the rates of development were offset by these other factors. It is probably the case that without bonuses the size of new buildings in the C-3 District has been and will continue to be smaller than would otherwise have been the case without the 1981 policy changes. Over the long term these effects would become more obvious.

Responses to Comments Regarding the List-Based Approach to Cumulative Analysis

The comments on the list-based approach state that all of the buildings currently on the list are assumed to be built by 1990. They go on to request that the list be extended by assuming additional development at the recent rates of construction. The comments also include requests for additional information about past construction, approvals, and lists of projects under review.

The Basis for the List-Based Approach Is a List of Probable Future Projects

The essence of the list-based approach to cumulative analysis is that estimates of future development are based on a list of reasonably foreseeable future projects. The list is not defined to include growth over a specified time period. It is defined to include all specific projects under construction, approved, and those which are determined to be under formal review pursuant to the standards established by the Court.

For purposes of establishing cumulative development under the list-based approach, the projects on the list define the amount of future development; the time period per se is not the relevant criterion. A time frame for completion and occupancy of the projects on the list is relevant for assessing cumulative impacts. The time frame is important for identifying the relevant future, local and regional context for assessing the impacts of the growth that would be accommodated by the projects on the list.

Even if all of the projects on the March 10, 1984 list were built by 1990, all of the space that they would provide is unlikely to be occupied by then. The Supplemental EIRs state that the new space is likely to be occupied during the 1990's. In other words, enough employment growth to absorb the additional space is expected during the 1990's. Thus, the cumulative impacts, such as transportation and housing, which arise from employment growth would occur sometime between 1990 and 2000. If one were to put a time frame on the cumulative impacts to occur because of the development of the office projects on the March 10, 1984 list, it would be sometime during the 1990's, not by 1990, as suggested in the comments.

The commenter asks for estimates of how many projects and how many square feet of space on the March 10, 1984 list will be completed every year from 1984 into the 1990's. Such estimates for the short-term future, requiring project-specific assumptions, would be highly speculative because they would depend on individual developer's programs and timetables, financing arrangements, construction costs and similar factors beyond the control of the Department of City Planning. Assuming an average of three years from approval to full occupancy (as in the Downtown Plan EIR), then projects that are approved or under construction on the March 10, 1984 list would be built by about 1988. For those projects under review, estimates would be more speculative. Not only does it depend on the factors mentioned above, but also on whether or not C-3 District projects would be approved as consistent with the new Downtown Plan policies. There is a large amount of space in C-3 District projects under formal review (about eight million sq. ft.). It is not certain if and when these projects would be approved, or the extent to which they might change in the course of the review process. An example of the types of changes that could occur is the 5th and Market project, on the March 10, 1984 list as under formal review at 1,000,000 sq. ft. and recently approved (November 1, 1984) at 695,000 sq. ft.

The Supplemental EIRs do not assume that no development would occur from 1990 to 2000 as alleged in the comments. Under the list-based approach, no assumption is made about future development beyond those projects on the list. This is a limitation of the list-based approach to cumulative impact assessment; the analysis can only go as far as the last application for project review.

A comment requests that the list of projects that define cumulative development under the list-based approach be extended so as to be comparable to the forecast developed with the Downtown Plan forecast approach. This is not a valid reason for extending the list since the

two approaches would still not be comparable. There are other, major differences that would still exist. (See the earlier discussion in this response about the differences between approaches.)

By its own definition, based on the State CEQA Guidelines cited by the Court of Appeals, the list is comprised of and limited to foreseeable, probable future projects. To extend the list beyond applications requesting review by the City would be speculative. It would be an improper use of the list-type of cumulative analysis to extend a list of relatively "known" projects, through speculation as to the next group of applications likely to be received.

Further, as explained in the following subsection, it would be inappropriate to extend the list on a "straight-line" basis using recent projects. To use a forecast would be to follow the approach of the Downtown Plan EIR which is what has already been done.

If the List of Projects Were Extended the Method Suggested in the Comments Would Not Be Appropriate

Once the point is made by the commenter that the list should be extended, the comments go on to state that an additional ten years of growth at recent construction rates should be added. The commenter says that this extended scenario would provide a worst case by assuming that the high rates of construction of the past four years would continue. The commenter says that this worst case should be the "no project" or "status quo" alternative.

For the purposes of these Supplemental EIRs, the No Project Alternative is limited to "no project" for the specific action/project under review: the four office buildings. The alternative of no buildings on these sites is covered in each final EIR. The adequacy of these alternatives analyses have not been challenged; moreover, this is no longer an issue because the projects are completed. The list is not the project/proposed action in these EIRs. Therefore, the argument of extending the list to provide a "status quo" alternative is irrelevant for these EIRs.

The list was not extended for the reasons described above. However, if the list were to be extended, it would not be appropriate to use the method suggested. There are three main reasons.

First, it would not be appropriate to use the recent, short-term rate of construction for estimating the longer term pattern. As explained earlier in this response, the last four to five years are not typical. A combination of market factors and uncertainties about future land use policies supported a high rate of development. This high rate cannot be sustained over the long term. The rate of occupancy has not kept pace with the rate of development, so that lower rates of construction will occur while employment growth catches up with development.

Second, the assumption that recent rates of construction would continue in the future either ignores the fact that the City is about to approve new controls for the C-3 District or assumes that the changes in zoning would have no effects. The projects that have been recently approved and constructed on which the commenter would base the long-term projection do not necessarily conform to the new rules, as they were approved prior to imposition of the new rules. Therefore, they cannot be used as an indicator of the types of projects likely to be proposed in the future.

Third, if the list were to be extended for purposes of estimating cumulative impacts through the year 2000, it would not be appropriate to add 10 years of construction to the projects on the list. The 2000 time frame should relate to both construction and occupancy because the impact assessments relate the growth of activity and employment (not buildings) to such factors as transportation facilities, housing, or cumulative air quality. The time frame for the cumulative impacts in the Supplemental EIRs relates to occupancy (employment), not to project construction or approval.

If the purpose were to develop a longer term forecast incorporating the effects of changes in downtown zoning policy, an approach similar to that used for the Downtown Plan and Alternatives forecasts would be appropriate. These forecasts identify growth through the year 2000, assuming that all projects already under construction and approved would be built. In effect, they incorporate the list, or a similar amount of development in comparable projects, and forecast additional development assuming either the policies of the Downtown Plan or the policies of the five Alternatives.

If the purpose were to provide a scenario which assumes that the changes in zoning incorporated in the new downtown controls have no effect, then the historic data on building construction in San Francisco could be more directly useful. However, the longer term pattern should be considered, not just the most recent construction data. Further, other factors besides historic development rates could also be considered, including future economic and real estate market factors. Changes in these types of factors could indicate that simple extrapolation of the past would not provide the best indication of future development. To consider these types of other factors requires an approach that is more similar to a forecast approach than to the list-based approach.

The Downtown Plan EIR had an alternative which assumed that the current Planning Code was not changed. This is the same as assuming that changes in the Planning Code have no effect. This was Alternative 1, the No Project Alternative in the Downtown Plan EIR. The forecast of office building development (using the Downtown Plan forecast approach to consider changes in economic, real estate market, and other factors separate from land use policies) for this Alternative was presented earlier in this response. The similarity to the long term historic rate of construction was demonstrated.

Data Requested for Past Office Building Construction and Approvals Is Not Available

The comments include requests for more detailed information about past construction and approvals of office building projects. The commenters want to tabulate and plot the data in an attempt to relate construction, approvals, and lists of projects under review. One comment wants to relate project approvals to changes in policies and politics. The information requested is not available from records in the Department of City Planning. The Department did not begin compiling lists of major projects under review until 1982, so information on projects under formal review in 1979, 1980, and 1981 is not available. The number of square feet under review at various times from 1982 through 1984 varies, depending on applications received, on applications being reviewed, and on applications that became inactive through developer inattention or other reasons. For example, the September 1982 list shows 3.8 million sq. ft. under formal review, the June 1983 list shows 4.1 million sq. ft., the November 1983 list shows 3.2 million sq. ft., and the January 1984 list shows 3.6 million sq. ft. The amount of space under review varies seasonally and annually for many reasons, including market forces, financing availability, and policy. Data on the past 15 years are not available in the Department of City Planning.

Information on Building Permit Application receipt date and issuance date, and on dates of Certificates of Occupancy issuance are available from the Central Permit Bureau under the direction of the Superintendent of the Bureau of Building Inspection. The Department of City Planning cannot order production of this information. Were such a demand within the Department's power, collecting the information, project-by-project, permit-by-permit, since 1965 would be a massive task that would take hundreds of person-hours. (The Bureau has processed 10,000 or more permits of all kinds each year in the past few years; the relevant permits would be a small fraction of these but would need to be separately identified.) The information gained would be of limited or no use, as explained elsewhere in this response. Thus, the activities would divert staff in the City Planning Department or the Central Permit Bureau or both from other planning and permit-processing activities; the person-hours would not be City staff time well-spent.

Because of the lack of data, it is not possible to tabulate and plot the information to develop relationships in the manner suggested in the comments. If information on space were tabulated, employment data should also be collected so as to track the occupancy of the space as well. However, data describing trends in office employment growth in downtown San Francisco are also not available. (The Downtown EIR Employer/Employee Survey provides estimates of C-3 District office employment in 1981.)

Even if the above types of data were available, cumulative analysis is not simply a matter of determining future development based on the past. Among the issues that must be considered are those that have

been described above: how typical are the years for which data is available; how does the recent short term past compare to the longer term pattern; how has the occupancy of space related to its development; will policies in the future differ from those in the past and how will this affect development; will economic and real estate market factors be different in the future.

All of these issues were taken into account in the forecasts for the Downtown Plan EIR that are used in these Supplemental EIRs for the cumulative analysis related to specific building projects. The other logical approach to cumulative analysis is to use a list of approved and reasonably foreseeable projects; this list is accurate as far as it goes but is somewhat more limited in its time frame and scope.

(Table C&R E.4 referred to earlier in this response is presented on the next page.)

COMMENTS

"The accuracy of these models for determining future conditions is determined by the validity of the assumptions used in the model, the quality of data use for input to the model, and the ability to verify the model. Major assumptions and their reliability should be clearly stated so they are understandable to highlighted for decision makers and the public and not buried in an appendices or computer programs. The quality of the data used should be described based on the reliability of the source and its timeliness. The models should be validated by inputting historical information to see if it accurately predicts the present situation. For instance, if a model is used to project the demand for office space in 1990 based on 1984 data, one way to test the validity of the model is to see if it accurately predicts the present 1984 demand for office space using 1978 data....

"How has the model to predict this demand be validated? If 1975 data were inputted into the model, does it accurately predict what will happen in 1985?

"In order for the public and the decision makers to evaluate the reasonableness of the models used in the Downtown Plan EIR and this EIR, the DEIR should, in understandable terms, discuss the following.

"Describe the major components of the model for predicting future office demand and employment in 1990 and 2000 (are they price of land, regional factors, housing costs, national economy, foreign trade?).

"Subjectively describe the relationship between the relative weights given to the major components of the model.

"Identify the type and sources of the 1981 data used as input to predict conditions in 1990 and 2000.

"Use the same type and source of data from 1975 to 'predict' the demand for office space and employment in 1984. The ability of the model to accurately predict from 1975 data the conditions in 1984 should give an indication of its accuracy and validity.

TABLE C&R E.4: BACKGROUND INFORMATION RELATED TO CUMULATIVE IMPACT ANALYSIS

	C-3 DISTRICT FORECASTS		LIST OF DOWNTOWN OFFICE PROJECTS	
	Downtown Plan 1984-2000	Alternative 1 1984-2000		1984 - Buildout
New Office and Retail Construction	19,100,000(a)	27,643,000(c)		22,634,945(d)
Net Addition of Office and Retail Space	18,227,000(a)	26,484,000(c)		19,934,570(d)
Net Change in Total Space	21,695,000(a)	29,433,000(c)		19,934,570(d)
Office and Retail Employment Growth	84,800(b)	98,400(b)		66,000(e)
Total Employment Growth	91,200(b)	106,300(b)		66,000(e)

NOTE: There are several important differences between the space and employment estimates presented in the table for the C-3 District forecasts and those presented for the list of downtown office projects. The numbers cannot be directly compared without an understanding of these differences, which are summarized in Figure 3 in the Supplemental EIRs.

(a) From Tables G.12 and G.14 in Downtown Plan EIR.

(b) From Table VII.C.2 in Downtown Plan EIR.

(c) From Tables G.12 and G.16 in Downtown Plan EIR, as revised in Downtown Plan EIR Responses to Comments (see p. C&R-B.32).

(d) From Table B.2 in Supplemental EIRs.

(e) From Table 9 in Supplemental EIRs, according to the methodology described in Appendix E of the Supplemental EIRs.

SOURCE: Recht Hausrath & Associates

"Describe whether if the model was or was not successful in predicting 1984 conditions based on 1975 data." (David Jones, letter of 8/21/84)

"I would like you to go back, and I am not going to repeat the comments that we made on the Downtown Plan EIR, but go back and test your new methodologies. Go back 20 years. Could you have projected today from 20 years ago, using your methodologies. I don't think you can. You have a methodology that is untested. It's not used by anybody else. It's your brainchild, so you defend it." (Sue Hestor, Transcript)

RESPONSE

The comments request descriptions of the methodology and data sources used to forecast C-3 District growth to the year 2000, referred to in these Supplemental EIRs as the "Downtown Plan forecast approach". This forecast, prepared originally for the Downtown Plan EIR, is used in these Supplemental EIRs as one of the bases for assessing the impacts of cumulative development. The comments also request that the "model" be validated or tested using data from earlier years to see if the "model" would predict current or past conditions.

The other basis for assessing cumulative impacts in these Supplemental EIRs is the list of downtown projects compiled by the Department of City Planning, referred to in these Supplemental EIRs as the "list-based approach". As described in a separate response, the list-based approach responds to the requirements of the Court; there is nothing in this approach to estimating potential future space and employment that involves the use of computers or quantitative modelling techniques.

The Downtown Plan forecasts of C-3 District space and employment growth are also not the results of a computer model. This response discusses the rationale for the methodology and procedures that were used, identifies the data sources and highlights some critical components of the Downtown Plan forecast approach. Most of this response has already been published by the Department in the Downtown Plan EIR Comments and Responses, September, 1984. Comments identical to those cited above from David Jones and similar comments from Sue Hestor were received on the Downtown Plan EIR.

Rationale for Downtown Plan Forecast Methodology

The Downtown Plan forecasting approach is anything but a "Rube Goldberg construction" as alleged in the comments. The methodology is more complicated than a simple projection based on a past trend. The task demanded a more complex approach. The downtown economy is complex, as are the relationships between downtown growth and impacts on housing, transportation, etc. Complexity does not invalidate the forecasts. In fact, as best estimates of future conditions under different policy assumptions, they are more useful and reliable than an alternative approach that might (for example) rely only on published data sources, occasional survey information, and trends that could not be specifically documented for the study area and that bore

no relationship to the future changes in study area conditions that were the focus of the analysis.

The economic forecasting methodology used to analyze the proposed Downtown Plan and Alternatives was developed specifically for this purpose, for use in the Downtown Plan EIR. The methodology is based on urban economic theory and incorporates the best available information on local and regional development trends and conditions. A recent article in the Journal of the American Planning Association describes the rationale and uses for a forecasting approach such as that undertaken for the Downtown Plan EIR analysis. (See Andrew M. Isserman, "Projection, Forecast, and Plan", in the Journal of the American Planning Association, Volume 50, Number 2, Spring 1984, pp. 208-221.)

There are several reasons why existing economic forecasts could not be used as the sole source for the Downtown Plan analysis. Most importantly, the primary purpose of the analysis was to provide both the employment and the building development information used in the impact assessment of the Plan and the Alternatives. Therefore, because the Plan and Alternatives (with the exception of Alternative 1, the existing Planning Code) represented a range of policy conditions different from either the past or the current situation, forecasts that did not specifically consider the implications of these changed conditions would not satisfy the needs of the Downtown Plan EIR analysis. Employment forecasts such as those prepared by the Association of Bay Area Governments (ABAG) and projections based on the list of proposed office building projects are not sensitive to alternative future C-3 District planning policies, and are thus inadequate as the sole basis for the Downtown Plan analysis. Furthermore, neither of these approaches could be used as the basis for the Downtown Plan EIR forecasts because neither one provides the complete future context for both employment and building development. The employment data and forecasts available for the total City and for the region are inadequate because the information is presented in terms of the Standard Industrial Classification (SIC) system, which does not reflect functional or space use differences, most importantly in terms of office activities. (For example, the office headquarters of manufacturing companies are classified by the SIC code for manufacturing, along with production functions which are in industrial rather than office space.) The projections of new building development based on proposed projects do not incorporate changes in the use of existing space or longer-term development potential. Finally, the focus of the Downtown Plan analysis is the C-3 District. Prior to the Downtown Plan study, existing conditions in this area had not been documented and analyzed in detail and there were no suitable forecasts specific to this area. ABAG's forecasts are oriented primarily towards the region and the city as a whole without consideration of specific C-3 District policies. A list of projects limited to the C-3 District could be developed, but it would still not be representative of future conditions under new policies and zoning.

The methodology developed for the Downtown Plan analysis was a qualitative "model" of the real estate market's resolution of demand and supply factors affecting growth in downtown San Francisco. On the supply side, the methodology focussed on the different space supply potentials for the C-3 District under the Plan and Alternatives, in terms of the amount, location, type, and cost of newly constructed or converted space. On the demand side, the methodology focussed on the characteristics and behavior of different space users, especially how they would react to different space supply conditions. Both supply and demand in the C-3 District were considered in the context of future citywide and regional market conditions.

Data Sources and Information

Because the methodology could not rely solely on existing forecasts and because of the special requirements for understanding the interaction of demand and supply in San Francisco's real estate market, numerous sources were consulted and data collection efforts were undertaken specifically for the Downtown Plan EIR analysis. The data sources and their use are described, as relevant, in the methodology appendices to both the Downtown Plan EIR and the Downtown EIR Consultant's Report. (Appendix G - Land Use and Real Estate Development Analysis, and Appendix H - Business and Employment Analysis, in both documents, describe each aspect--supply and demand--of the forecasting methodology.) A list of the major data sources used in the forecasting analysis is provided in the Downtown Plan EIR Comments and Responses, pp. C&R-B.2 - C&R-B.3, and is incorporated by reference in this EIR.

The variety of sources on the list shows that not all of the data considered in the forecasting analysis were quantitative. Clearly, no single factor such as an average annual amount of office construction or approvals was the basis for the forecasts, nor should a single source be the sole basis for a forecast. Moreover, the factors that were considered, and for which the sources listed above provided data and information, are not "subjective factors". They are standard means of describing and measuring urban economic activity. Pages H.22-H.34 in Appendix H of the Downtown EIR Consultant's Report (incorporated by reference in the Downtown Plan EIR on p. H.2) show how these factors were interpreted and incorporated in the baseline forecast for the C-3 District, 1981-2000, for each of 12 business activities.

Forecast Approach

The economic forecasts prepared for the Downtown Plan and Alternatives are long-term (1981-2000) forecasts. The methodology was designed to satisfy the area-wide (C-3 District) land use planning purposes of the Downtown Plan EIR: comparing long-term planning scenarios for the C-3 District, i.e. the proposed Plan and the five Alternatives. Each scenario has a different forecast.

The long-term forecasts are not sensitive to short-term vacancy or business cycle conditions. Furthermore, they are not "historic trend"

forecasts or "employment share" forecasts. They represent the most likely future outcomes considering both changes over time in the factors influencing C-3 District growth potential as well as differences in C-3 District land use and zoning policy.

The procedures of the methodology are described in Appendix H of both the Downtown EIR Consultant's Report (pp. H.18-H.48), and (in somewhat less detail) the Downtown Plan EIR (pp. H.6-H.15). Figure H.1 is a summary diagram of the procedure, referred to as the process of "matching" employment and space. Pages G.11 through G.17 in Appendix G of the Downtown Plan EIR describe the basic real estate market interactions on which all the forecasts rely. Figure G.1 (p. G.14) summarizes this discussion. These materials are incorporated by reference--the following paragraphs highlight the important components of the economic forecasting methodology in order to clarify issues raised in the comments.

Identifying Existing Employment in Categories Relating to Demand for Space

The first major component for preparing the forecasts was defining and measuring C-3 District employment in terms that would be useful for identifying the demand for space. One of the results of the survey and analysis leading to 1981 estimates of C-3 District employment was the definition of business activity groups (see pp. H.2-H.5 of the Downtown Plan EIR). By linking employment statistics recorded by Standard Industrial Classifications (SIC)* with the type of space occupied and the function carried out in that space, the definition of business activities enabled employment forecasts to be based on analysis of the observed characteristics, growth potentials, and preferences for locations and types of space of the full range of space users in the C-3 District. The Downtown Plan and Alternatives employment and space forecasts were prepared for business activities within office, retail, hotel, industrial/warehouse/automotive/parking, and cultural/institutional/other uses.

The Baseline Forecast

Because of the comparative perspective of the Downtown Plan and Alternatives analysis (what difference would a new set of C-3 District planning policies make for employment growth and real estate development), a baseline forecast of potential economic growth was developed. This is the second major component of the forecast methodology.

*The Standard Industrial Classification system was developed by the U.S. Office of Management and Budget to provide standard categories for reporting and documenting business and industry activity. The SIC system is used by local, state and federal agencies in reporting economic statistics. (See Office of Management and Budget, Standard Industrial Classification Manual, 1972 and 1977 Supplement.)

The baseline forecast of C-3 District growth does not reflect specific land use policies. It represents the demand for space under certain generalized real estate market conditions. Space in new buildings is assumed to be available; some in the most preferred locations, some in locations becoming more competitive with the preferred locations, and some in moderate rent buildings in less desirable parts of the C-3 District. As in the past, sites in the core of the C-3 District (essentially the financial district) would continue to be more intensively developed; the boundaries of this core area would expand; and some large-scale single-tenant and speculative office development would occur on large sites in more outlying areas. Space in existing buildings in more peripheral C-3 District locations would become more intensively used as the core area expands. Given this long-term supply potential, rents (for different types of space) are assumed to remain at about the levels of the early 1980's, in constant dollars.

For the baseline forecast of employment growth, these assumptions regarding future space availability, location and cost defined some of the forecast parameters. Other inputs were:

- employment growth trends by SIC for the City and region (not available by business activity or specifically for the C-3 District),
- employment forecasts by SIC for the downtown area, the City and region,
- business and industry organization trends and market forces,
- locational preferences of business functions of various types, including consideration of types of space, rents, accessibility, etc.
- future location options elsewhere in the City and region (as evidenced by development proposals and plans),
- interdependence of economic activities (e.g. office and retail, tourism and retail, corporate office and business supply and services).

Forecasts for the Plan and the Alternatives

Alternative 1 (the Planning Code or "No Project" Alternative in the Downtown Plan EIR) is the only set of policies considered in this analysis in which the baseline employment growth forecast would be achieved. The existing Planning Code zoning in the C-3 District would continue under this Alternative. This would result in a future real estate market context most similar to the baseline assumptions and to the conditions that have existed in the C-3 District.

The other Alternatives and the Downtown Plan represent a range of constraints on new development. Therefore, the space supply conditions of each set of policies (availability, location, and cost) as determined by the real estate analysis represent differences from the

conditions of the baseline forecast. (See Section V.B, Land Use and Real Estate Development Impacts, pp. V.B.8-V.B.44 in the Consultant's Report and Section IV.B, Land Use and Real Estate Development Impact, pp. IV.B.30-IV.B.54 in the Downtown Plan EIR for discussions of the different effects of the various policies on office, retail, and hotel development potential in the C-3 District and on other issues related to land use change, such as demolition and conversion.)

Analysis of the sensitivity of the various business activities to these supply factors was the basis for the employment forecasts for the Plan and each of the other four Alternatives. This is the third major component of the forecast methodology. Table H.4 on pp. H.23-H.24 and pp. IV.C.31-IV.C.35 of the Downtown Plan EIR present conclusions regarding location preferences for business activities and their relative sensitivity to space costs. The employment forecasts were subsequently used to estimate the amount of new and converted space built and occupied by use and subarea. Consideration of employment densities was implicit in the analysis of sensitivity to supply conditions. Employment densities are relevant not only to the demand for new space, but also to the use of existing space.

The results of this approach, the real estate development, land use, and employment forecasts presented in the Downtown Plan EIR (Sections IV.B, IV.C., VII.B. and VII.C) and the Downtown Plan forecast of cumulative development and growth used in the Supplemental EIRs, are long-range forecasts. They represent a range of assumptions and parameters as defined by the different C-3 District policies that were the subject of the Downtown Plan EIR analysis.

The relevant Appendices describing the methodology used to forecast growth under the Alternatives (Appendices G and H of the Consultant's Report) are summarized and incorporated by reference in the Downtown Plan EIR. (See pp. G.2 and H.2 in the Downtown Plan EIR.) The Alternatives sections of the Downtown Plan EIR (Sections VII.B and VII.C) present the range of forecast results for the Plan and Alternatives.

The Forecasts Reflect Changes Over Time

An important aspect of the economic forecasting methodology is the incorporation of changes over time in development patterns and the behavior of space users in response to changed conditions under new C-3 District policies. Appendix G of the Downtown Plan EIR, pp. G.12-G.17 describes the dynamics of the downtown real estate market and the factors that are likely to change as a result of changes in land use and zoning policy. Demand is expected to gradually adjust to accept new locations for major office development. Changes over time in rents for various C-3 District locations affect the feasibility of new development and the likelihood of accommodating employment growth in new buildings. At the same time, businesses are expected to adjust to space supply constraints (and higher rents) by using space more efficiently. Higher employment densities affect the total amount of activity in the area, separate from the amount of new development.

Validation of the Downtown Plan Forecasting Methodology

Comments on the Downtown Plan EIR asked similar questions about the validity of the forecasting methodology. The response in Section B.1.3 of the Downtown Plan EIR Responses to Comments provides detailed explanation and is incorporated here by reference. The information in that response is summarized below.

The Downtown Plan approach for forecasting future land use and employment is based on a conceptual framework of the process of urban economic development. The analytical procedures incorporate a variety of types and sources of data and information concerning past, current, and likely future conditions regarding economic, real estate, demographic, and public policy factors. The forecasting process does not involve a set of calculations or equations which could be computerized and used to predict future conditions for a future year based on the input of data for a prior year, as is suggested in the comments. There is more to this approach than a mathematical equation. Not everything that is important in forecasting can be quantified or explained in a formal mathematical "model". Informed decisions are called for. This approach is recommended in the previously cited article in the Journal of the American Planning Association, Spring 1984 issue. The article distinguishes between projections (extrapolations of past patterns of growth into the future) and forecasts.

Although there is no best history for projections, there probably is one for forecasting. Which trend is most likely to continue? What caused the 1970-1980 growth? Can these factors be expected to continue, or was that a period of aberration...? Answering these questions, thinking about the past and the future, and forming some notions about what has happened, what will happen, and why can lead to dismissal of part of the historical data base as misleading in identifying the future trend....

The extent to which an agency is forecasting depends on how it identifies alternative futures and assesses their likelihood.... The formal methods alone do not suffice. Thought and analysis are necessary outside the model. The equations alone do not determine what is likely to happen in the future....The key is to think about the future and try to understand how it might differ from the recent past. (Andrew Isserman, "Projection, Forecast, and Plan", in Journal of the American Planning Association, Spring 1984, pp. 208-221.)

The type of modelling that the comments describe would be more appropriate for economic forecasts done for specific industries or for large geographic areas. For these types of forecasts, there would be a much better data base as well as much less concern about the location of facilities and the effect of local policies on location options. For the Downtown Plan EIR, the forecasting effort had to focus on an area and an industry (the office sector) for which very little published data are available, and on factors which cannot easily be translated into quantitative terms. Further, the forecasts had to be developed

to be sensitive to the effects of site-specific local land use policies which had not yet been enforced or reflected in recent development and employment patterns and statistics. (See J. Thomas Black, Donal O'Connell, and Michael Morina, Downtown Office Growth and the Role of Public Transit, Urban Land Institute, 1982, for a discussion of the difficulties of measuring trends in office location and predicting the determinants of office growth.)

The same conceptual framework and analytical methodology could be used to forecast current conditions based on information available at an earlier time. However, it would not be a process of simply "inputting" data for a particular year and getting forecasts as the "output". Moreover, it would not validate the future forecast. Using the same framework would show that standard, commonly-known urban economic theory and principles could be combined with available data and information to replicate the past. This would merely validate the theories and principles, but they have been validated by many experts over the time since they were developed. This would also be a time-consuming and costly effort. Extensive data collection and analysis were done to validate the description of 1981 conditions, the starting point for the forecasts. In the course of the forecasting analysis there was on-going evaluation of the relevant factors and the assumptions made about those factors. Explanations for the patterns reflected in the forecasts were compared with explanations for recent and past trends, as well as with the rationale behind other available forecasts. The analysis also included evaluating how changes in the assumptions about key factors would affect the results.

The descriptions of the methodology and the forecasts in the Downtown Plan EIR and in this response provide readers with background and information upon which to make their own evaluations of the approach and its forecasts. In addition, the comparison of the Alternatives provides five different forecasts and highlights the "sensitivity" of the numbers to different assumptions about local land use policy.

COMMENTS

"The EIR should evaluate the effect of limiting citywide construction of office space to 500,000 square feet per year and determine whether or not such a limit is consistent with the annual average amount of growth predicted by this DEIR and the Downtown Plan for the next 16 years.

"As noted in other SFRG comments on this DEIR and on the Downtown Plan EIR, SFRG is skeptical that the predictions of this model are accurate. We therefore believe the findings of the DEIR that the demand for office space in San Francisco will be substantially lower than historical trends should be backed up by a limit on annual office project approvals consistent with these findings. The environmental findings of this DEIR regarding the cumulative impacts of office development will only be accurate if the City approves no more square feet of projects than that assumed to occur by the EIR models and analyses.

"Given that 11.6 of the 18.6 million gross square feet of office space presumed to occur in the next 16 years is already under construction or approved, what average annual rate of office development approvals can be taken by City agencies in the next 16 years consistent with the office demand assumptions of this DEIR.

"Given the list of already approved office projects and projects under formal review on the 3/10/84 DCP list, would the imposition of a citywide annual rate of 500,000 square feet of office space approvals for the next 16 years allow the office demand presumed by the economic models of this DEIR to occur?

"The FEIR should indicate how much the accuracy of this DEIR would be affected if the amount of office demand were substantially higher than predicted. What would be the effect on the DEIR transit and traffic analyses if historic trends of the past 10 years were presumed to continue?" (David Jones, letter of 8/21/84)

"Last week I testified on what I considered the need for an annual limit, not as mitigation, but that's what this EIR says will happen. I am not asking anything more than what the EIR says will happen in the cumulative development. I am not asking for more mitigation. I am asking that there be some annual limit that would stop that.

"Again, this is using the EIR's references of the Downtown Plan as a data source. If you look at the first page, which is a Xerox of a page from the Downtown Plan EIR, you will notice that from 1990 to the year 2000, it predicts 8,400,000 square feet, for an annual rate of 840,000 square feet. However, it presumes that from about '84 to '88 or '89, the buildings already approved are the ones that are going to be built and have an impact. So you really don't divide -- that 8,400,000 square feet is going to happen over a 10-year period. However, the approvals by the Planning Commission for that 8,400,000 square feet will happen over a 16-year period.

"If you turn to the second page, you will see something that says: If this EIR, if the Downtown Plan EIR is accurate, and between now and 1990, 9,868,000 square feet are built, that leaves you with 8,400,000 square feet from 1990 to 2000. But the approval years, the years over which those approvals will take place, are 1984 to the year 2000, 16 years. So you don't divide that 8,400,000 by ten; you divide it by 16. And you get a number like I said last week.

"Now, the second Item A, which should have been Item B, looks at the list in the Downtown Plan, in these four EIR's, which shows that there are, under construction or proposed already, 11,600,000 square feet. If those buildings are constructed and if the approved buildings are constructed, you only have left to approve in the next 16 years, 6,700,000 million (sic) square feet, for an annual limit of about 480,000 square feet.

"What is to stop the Planning Commission, with nine million square feet of development in formal review right now, from using up the whole seven million square feet in the next three years? And if you did that, the entire EIR would be false. The entire analysis would be false. The transit impacts would be false. The traffic impacts would be false. The whole validity of this EIR depends on only that amount of approval taking place.

"I think the methodology for cumulative impacts, the annual limit would take care of discrepancies because I would have the assurance that even if your model was wrong, the EIR is right. Because if there was an annual limit, even if the model is wrong, the EIR says there will be so many square feet a year, and if you are limited to that, at least we know the EIR is right." (David Jones, Transcript)

RESPONSE

The data and calculations presented by the commenter as the basis for an annual limit (Table G-1 in an earlier comment) are not correct. Table C&R E.5 shows the appropriate calculations, using forecasts of future C-3 District office development under the Downtown Plan. The total space in office projects built and occupied from the end of 1984 through 2000 (shown in the Downtown Plan EIR in Table IV.B.12), plus the amount of space that would be built, under construction, or approved in 2000, but not yet occupied, is the total space in office projects approved through 2000 (about 21.6 million sq. ft.). It is true, as the commenter points out, that a large number of projects and amount of space are already under construction or approved for the C-3 District (about 6.0 million sq. ft. of space on the March 10, 1984 list) and have to be subtracted from the total forecast to determine the amount of space remaining to be approved. The resultant estimate of 15.6 million sq. ft. is the amount of space in projects that were not approved on the March 10, 1984 list that would be "available for allocation by the Planning Commission" in the future in the C-3 District. This is the total amount of C-3 District office space to be approved sometime between 1984 and 2000 that is consistent with the forecast of C-3 District office development under the Downtown Plan.

On an annual average basis, the total of about 932,500 sq. ft. translates into roughly one million sq. ft. per year to be approved in the C-3 District, over the 16.75 years from March, 1984 through 2000. This simple calculation cannot be used to imply that one million sq. ft. of C-3 District office space would necessarily be approved each year, however. While the annual average over the period might be this amount, the world does not actually follow such a regular pattern. Specific years are likely to be either higher or lower, depending on building cycles in downtown San Francisco's office market.

* See Table C&R E.2 and accompanying text in an earlier response for explanation of how the calculations described herein compare to those prepared by the commenter in Table G-1 in his comments.

TABLE C&R E.5: FUTURE C-3 DISTRICT OFFICE BUILDING APPROVALS UNDER THE DOWNTOWN PLAN FORECAST, 1984 THROUGH 2000 (gross sq. ft. of building space not accounting for demolition)

Downtown Plan forecast of space in office projects built and occupied from the end of 1984 through 2000	18,268,000
In 2000, space in office projects built, under construction, or approved, but not occupied	+ 3,360,000
	<hr/>
Total space in office projects approved through the year 2000	21,628,000
Space in C-3 District office projects approved or under construction as of March 1984	- 6,008,700
	<hr/>
Total space in office projects remaining to be approved through the year 2000	15,619,300
Annual average office project approvals over 16.75 year period	932,500

NOTE: The above estimate of annual average project approvals for the C-3 District under the Downtown Plan was prepared in response to comments and follows the approach attempted by the commenter. Table C&R E.2 and accompanying text in an earlier response explain how the above calculations compare to those presented in the comments. The above estimate of annual average project approvals is for a specific time period: the 16.75 years from March, 1984 (the date of the list of project approvals) through 2000 (the end of the forecast period). The text explains how the above estimate might compare to the long-term annual average rate of project approvals under the Downtown Plan. It also explains that specific years are likely to be higher or lower than the annual average, depending on building cycles in downtown San Francisco's office market.

SOURCE: Recht Hausrath & Associates

Annual average office building approvals on the order of one million sq. ft. per year in the C-3 District would accommodate the C-3 District employment growth forecast from 1984 through 2000 under the Downtown Plan, with the associated impacts identified in the Downtown Plan EIR. This annual average is the number the commenter attempts to derive in making his argument for an annual limit on office project approvals. As demonstrated in Table C&R E.5, this number is influenced by the approvals which have already occurred and by the growth forecast through about 1990 that does not solely reflect the level of development expected under the Downtown Plan. Development under the Downtown Plan is better represented by the 1990 through 2000 forecasts. On an annual average basis, the 1990-2000 forecast of C-3 District office building development works out to 840,000 sq. ft. per year. This is the best estimate of long-term annual average office project approvals at the level expected in the C-3 District under the Downtown Plan.* It is independent of the amount of space in the pipeline (i.e., built, under construction, or approved, but not yet occupied) in any one year, and is not biased by the particulars of the March 10, 1984 list.

The amount of office development citywide would of course be greater than the amount shown for the C-3 District under the Downtown Plan, assuming City policy allowed some office development outside C-3 District boundaries. Therefore, larger annual average forecasts of development on a citywide basis would be consistent with the annual

* Over the long term, annual average office project approvals would equal annual average absorption of new space. Under the Downtown Plan, the long-term annual average rate of office project approvals would be 840,000 sq. ft. per year, using the 1990-2000 forecast of C-3 District office building development as representative of the long term pattern. Deriving the long term annual averages should not be confused with developing an annual average estimate for the specific time period from 1984 to 2000 as attempted by the commenter.

In relating to the specific period from 1984 to 2000, the commenter states that the 1990-2000 office development forecast (8.4 million sq. ft.) should be divided by 16 years rather than 10 years since all other space to be built and occupied by 2000 is already approved. (Thus, he calculates an annual average of 525,000 sq. ft. rather than 840,000 sq. ft.) In other words, the commenter assumes that the 8.4 million sq. ft. (forecast of space to be built and occupied from 1990-2000) represents the total space in projects remaining to be approved through the year 2000. That calculation is incorrect. The correct figure is 15.6 million sq. ft. as explained in Table C&R E.5. The commenter did not account for the space in office projects in 2000 that would be built, under construction, or approved but not occupied (3.36 million sq. ft. from Table C&R E.5) and he did not correctly identify the space from the March 1984 list in only C-3 District projects that were approved or under construction (6.0 million sq. ft.).

averages predicted for the C-3 District. Because the Downtown Plan reduces the potential for development within the C-3 District, there could be higher rates of office development in nearby areas, particularly to the south. It must be kept in mind, however, that the potential for additional development in areas near to downtown can be reduced if existing City zoning policies are altered by planning programs now underway in the City Planning Department.

This analysis demonstrates that limiting annual average office construction approvals citywide to 500,000 sq. ft. per year for the next 16 years would not allow the same amount of growth forecast for the Downtown Plan to occur. As stated in the Downtown Plan EIR: "a limit of 0.5 million sq. ft. per year could have a more dramatic (compared to the more generous annual limit proposals) effect on City office development otherwise expected under the Downtown Plan." (Downtown Plan EIR, p. V.A.3.) In fact, this could represent the "drastic reduction" in development activity described by the commenter with reference to the Downtown Plan forecasts.

It is not the purpose of these Supplemental EIRs to evaluate the effects of different cumulative development scenarios. Cumulative development is not the project/action under review in these Supplemental EIRs. Therefore, it would not be appropriate to evaluate alternative development scenarios, as represented by the annual limit on citywide office construction. The subject of the Downtown Plan EIR is alternative cumulative development scenarios; an annual limit on citywide office construction is evaluated in the Downtown Plan EIR (see pp. V.A.1-V.A.5 in the Downtown Plan EIR and pp. C&R-B.43, C&R-B.60, C&R-B.79, C&R-D.75 and C&R-P.1 - C&R-P.4 in the Downtown Plan EIR Comments and Responses). The Downtown Plan EIR and the Downtown Plan EIR Comments and Responses explain the ways in which an annual limit scheme could be implemented and the implications of the various approaches for the locations and types of development that would occur, and whether the strategy would be effective in mitigating impacts.

Table V.A.1 in the Downtown Plan EIR presents estimates of the effects of various citywide annual limits on citywide office development, assuming the Downtown Plan is in effect in the C-3 District. The table indicates how much of the citywide development, that would otherwise be built to accommodate demand, could not be built under three annual limit systems: 500,000 sq. ft. per year, 1.0 million sq. ft. per year, and 1.5 million sq. ft. per year. Because of the potential for office development outside the C-3 District, even a citywide annual limit of 1.5 million sq. ft. per year could reduce the amount of development otherwise expected.

On pp. V.C.1-V.C.2 of the Downtown Plan EIR there is also discussion of the implications of annual limits for employment growth. The key point from this discussion is that, under a restrictive annual limit system, the reductions in the amount of employment growth otherwise expected would not be proportional to the reductions in office construction. Assuming continued strong demand, there would be pressures

to increase employment density and intensify the office use in existing space. This is an important consideration from the perspective of impacts directly related to employment, such as housing and transportation. Under this scenario, as office employment growth occurred in existing space, the opportunities for public review would not be commensurate with overall growth. Consequently, there would be fewer opportunities to require measures to mitigate impacts related to employment growth.

The commenter implies that higher rates of office development than predicted under the Downtown Plan forecast would invalidate the impact analyses in the Downtown Plan EIR. This is not true. Actual rates of growth could be either higher or lower than the forecasts prepared for the Downtown Plan scenario. The assessment of impacts in the Downtown Plan EIR would not be "false", however, because the EIR identifies the impacts of both higher and lower growth alternatives. Alternative 1 represents a higher overall growth scenario; its implications are described in Section VII of the Downtown Plan EIR. Because this Alternative assumes no changes in the Planning Code for the C-3 District, the forecast results are most similar to historic trends. Tables C&R E.3 and C&R E.4 (in an earlier response) present forecast information for both the Downtown Plan and Alternative 1. The effects of a 500,000 sq. ft. limit on annual average office building approvals citywide under Alternative 1 assumptions for the C-3 District would be greater than those estimated for the situation with the lower growth Downtown Plan forecast. (See pp. VI.A.1-VI.A.6, particularly Table VI.1 in the Downtown EIR Consultant's Report for discussion of the annual limit as it relates to the Alternatives to the Downtown Plan.)

The Department of City Planning expects to monitor future approvals and development closely, relative to the Downtown Plan EIR forecasts. Because the forecasts have been prepared and the information on cumulative impacts is available, the Department will be able to track the rate of future office development to determine whether it is following the expected pattern or if new analyses, new controls, or new mitigation are required. (See pp. C&R-P.5 - C&R-P.12 in the Downtown Plan EIR Comments and Responses.)

COMMENT

"So, give us the information that shows how tax policies, I mean, in your methodology, what happens when there are unstable countries and unstable capital? What happens when the United States has incredible interest rates and capital flows into the United States? What happens when the Hong Kong lease is up? What happens when you have strange, bizarre tax policies in the United States that promote certain kinds of real estate ventures -- in your methodology, in your new cumulative methodology?" (Sue Hestor, Transcript)

RESPONSE

A commenter asks for discussion and consideration of the effect of non-local sources of capital (referred to generally as "flight-capital" or "unstable capital" in the comments) and U.S. tax policies on

office building construction in San Francisco and how this was considered in the Downtown Plan forecast methodology used as one approach to cumulative impact assessment in these Supplemental EIRs. This is a purely economic issue that is outside the scope of CEQA. The following response has been provided, however, in order to present as much information as possible to the decision makers and the public.

Foreign investors from Hong Kong, Canada, and the Middle East, as well as other U.S. investors (e.g. from Texas) have been active in San Francisco's real estate market and in other real estate markets in this country (primarily New York, Dallas, Houston, Los Angeles, and Miami) since the late 1970s and may continue to be active in the future. The expectations of these different investors for the use and returns on their investment vary; no one pattern predominates.

Some foreign investors see the U.S. as a safer place for investment than other options. The Asian community, in particular, has traditionally been interested in San Francisco. This is expected to continue to some extent because of political uncertainties in places such as Hong Kong.

For U.S. investors, U.S. income tax laws affect the relative attractiveness of various types of investments, including real estate. In general, the tax laws favor real estate, primarily by allowing for depreciation of an asset which is usually not depreciating in actual (nominal) dollar terms.

Changes in the tax laws in 1981 increased the attractiveness of real estate as an investment by allowing a faster rate of depreciation. In 1984 the law was again changed, this time to moderately slow depreciation, to increase the tax yield on tax preference items, and to restrict other practices which made real estate attractive. There is anticipation that the laws will be further changed in 1985 as part of a program to reduce the deficit, with a change in the capital gains provisions being a possibility.

The tax advantages of real estate relative to other investments affect the desirability of real estate investments. The pattern of tax policy changes over the last several years has generally been to favor real estate over other investment options.

San Francisco's downtown real estate market has been and will continue to be an attractive investment opportunity. While there are many reasons behind the availability of investment capital in San Francisco's office market, ultimately continued investment depends on financial return and the demand for space. The investors supply the capital necessary to satisfy this demand and receive an acceptable return on their investment. If a market becomes over-built, because developers and investors were overly-optimistic in their expectations, then investors will look to other markets or other investments with more favorable returns. Even "flight capital" will not be invested in San Francisco, if, over the long term, there is no demand for space or there is an over-supply of available space.

Evidence that investment follows demand (and not vice versa) is provided in a recent Wall Street Journal real estate report on foreign investment in U.S. real estate markets. The analysts predict that "foreign investors will avoid freewheeling markets like Houston, where a number of foreign investments soured, in favor of tightly controlled markets like Boston, Washington, D.C., and San Francisco." (Wall Street Journal, October 17, 1984.)

The long-term Downtown Plan EIR forecasts that are used in the cumulative analysis are based on the demand for space. "Flight capital" and other investment will provide the space needed for forecast employment growth. This does not add to the demand for space. The continued availability of capital for real estate investment and development, because of both foreign interest and U.S. tax policies, was one of the assumptions inherent in the Downtown Plan economic analysis.

COMMENT

"...the Downtown Plan sees as the mitigation measure or, really, the solution of all of...the cumulative problems, the Downtown Plan. You see the Downtown Plan as addressing the cumulative needs. If the Downtown Plan was approved today, what are the modifications that each of these projects would have to do. I want to know if the Downtown Plan really is going to solve anything -- would some of these building be barred? Would they be modified in size? Or is the Downtown Plan just architectural amenities on these buildings? If all of these buildings meet the standards of the Downtown Plan or mostly meet them, I would point out that the total square feet is 1,336,350 square feet, which is two years' average rate of growth under the Downtown Plan, under your projections. It's slightly more than two years." (Sue Hestor, Transcript)

RESPONSE

Whether these four projects comply with the Downtown Plan or how they would have to be modified to comply are irrelevant. All four projects were approved before the Downtown Plan was presented. How the space in these four projects compares to annual average construction of office space as forecast in the Downtown Plan EIR is also irrelevant. These projects are not necessarily representative of the projects that would be built under Downtown Plan policies.

In the Downtown Plan EIR, all of the projects except Spear/Main are included in the 1984 setting, not in the forecasts. Spear/Main was approved but not yet under construction at the time the Downtown Plan EIR analysis was done so it is included in the projects to be built in the rest of the 1980's (from 1984 to 1990).

Although a comparison of the space in these four projects to the forecasts in the Downtown Plan EIR is irrelevant, the numbers presented by the commenter are not accurate and should be corrected. The space in these four projects (1.35 million sq. ft. of total space) is comparable to a little more than one year's growth under the

Downtown Plan EIR forecast when compared to annual average construction (1.2 million sq. ft. from Table C&R E.2 in an earlier response). The commentor's statement that these four projects are comparable to over two years' growth is not correct.

COMMENT

"I think you need to find growth-inducing impact. The information in these EIRs, as insufficient as it is, shows that you have to do that. I think that one of the things that was most valuable for me in the Court of Appeals decision is that they're going through whether you can make findings like you are doing. You make a finding that there are overriding considerations to strengthening the downtown core...I don't think you can make those findings any more. I think the Court of Appeals was troubled by that, and I think you should be troubled by whether you can find overriding consideration for all of the things that themselves harm, according to your EIR. You must find growth-inducing impact. You must find and talk about the impacts that you are having on Chinatown, South of Market, North of Market, the Van Ness Corridor, and on the region. Part of the growth-inducing impact is loss of agricultural lands in the Bay Area as a whole and in the Valley as people search and search for affordable housing and a place to build affordable housing. And they're going farther and farther away. That is a growth-inducing regional impact." (Sue Hestor, Transcript)

RESPONSE

The growth-inducing impacts of the proposed actions under review are covered in the four Final EIRs. In the four Supplemental EIRs, the proposed actions are still the four building projects. The growth-inducing impacts of each project have not been contested in court and were not the subject of the Appellate Court decision or the Peremptory Writ of Administrative Mandamus under which these Supplemental EIRs have been prepared. The cumulative development context, whether defined according to the List of Downtown Office Projects or the Downtown Plan forecast, is not the proposed action under review in these Supplemental EIRs.

The growth-inducing impacts of cumulative downtown development, as represented by the C-3 District forecasts through the year 2000, are discussed in the Downtown Plan EIR on pp. X.1-X.3. The Downtown Plan EIR is the appropriate place for this discussion, because the Downtown Plan is the "proposed action". The discussion of growth-inducing impacts of cumulative downtown development as forecast under the Downtown Plan is only indirectly relevant to consideration of these four building projects. Each individual project contributes a relatively small portion of the development responsible for the growth-inducing impacts identified.

The commenter also uses growth-inducing impact to refer to impacts on areas adjacent to the core downtown (Chinatown, South of Market, North of Market and the Van Ness Corridor). Again, the impacts of cumulative C-3 District development on adjacent areas are appropriately discussed in the Downtown Plan EIR. In that EIR, the Downtown Plan

forecast (used as one of the cumulative contexts for downtown development in these Supplemental EIRs) is analyzed, together with five Alternative forecasts. In the Downtown Plan EIR, impacts in adjacent areas are referred to as the spillover effects of downtown development, not as growth-inducing impacts. (See pp. IV.B.55-IV.B.62, pp. IV.C.47-IV.C.49, VII.B.8-VII.B.10, and VII.C.10-VII.C.11 in the Downtown Plan EIR.) These types of impacts are also discussed in depth in the Responses to Comments on the Downtown Plan Draft EIR. (See Section B.4, Displacement, for a discussion of issues raised in the comments on business and employment as well as housing displacement both in the C-3 District and in adjacent areas. Changing real estate market pressures, in particular the spillover effects of downtown development, receive particular attention.) Single buildings contribute to the cumulative spillover effects, but their contribution cannot be individually defined and measured.

The commenter is also referred to Section H of these responses to comments on the Supplemental EIRs. The issue of the loss of agricultural land as it relates to the regional residence patterns and housing implications of downtown San Francisco growth is discussed.

COMMENT

"...In the appendix, Page 13,...shouldn't YBC and the Rincon figures be broken down so that the retail is separated out from the office? It just has a general figure all allocated to office, and I don't think that is accurate. Redevelopment has those figures, I am sure." (Commissioner Bierman, Transcript)

RESPONSE

The retail space in Yerba Buena Gardens and in Rincon Point/South Beach would be in addition to the office space figures on the list in the appendix. The current estimate of retail space planned in Yerba Buena Gardens (YBG) is 255,000 sq. ft. If this amount of space were added to the list, the total would increase by about one percent. This increase would not substantially change the overall cumulative impact analysis. (It would represent a larger percentage of retail space alone but that is not relevant since the cumulative analysis identifies the impacts of total office and retail space, combined.) The Rincon Point/South Beach project is less far along, and there is more uncertainty about future retail development. The current plan would allow a maximum of 377,000 sq. ft. of retail space. The Redevelopment Agency does not expect that this amount of space will actually be built. The Agency is hoping for the development of more like 330,000 sq. ft. If this amount were built it would add to the space on the list. It would represent an increase of about 1.5 percent. This space would be in addition to the retail space for YBG identified above. Together, these additions would not substantially change the overall cumulative impact analysis. (Retail space figures from Frank Cannizzaro, SFRA, telephone conversation, November 15, 1984.)

COMMENTS

"We are again questioning your ability to rely on the Downtown Plan EIR, which is a draft document. We do not see how you can do so under CEQA, since that has no status as a document because it's not a final EIR; it's a collection of papers that has not yet been certified by this board and certified before this hearing.

"To the extent that you are relying on that, we are once again incorporating by reference the comments that were made on the Downtown Plan, the Downtown Plan EIR, and the Downtown EIR, which comments have never been published."

"Comments that deal with cumulative numbers; comments that deal with your new economic projection model versus a land use model: comments that deal with the regional impacts of cumulative development; comments that deal with your transportation and transit methodologies; comments that deal with the seismology of the downtown. Additionally, we are incorporating by reference the comments that were made on the cumulative effects on air quality and on housing." (Sue Hestor, Transcript.)

"I presume, and it is one of my comments, that this EIR references the Downtown Plan EIR, which I guess is to serve as a program EIR. I presume that you cannot certify these four EIR's until you have certified the Downtown EIR, since to do so would be referencing a document which has not had approval by this Commission and review by the policy people." (David Jones, Transcript.)

"This DEIR should not be finalized nor certified by the Planning Commission until after the Downtown Plan EIR is finalized and certified." (David B. Jones, letter 8/21/84.)

RESPONSE

CEQA permits an EIR to incorporate by reference any document which is a matter of public record or is generally available to the public (State CEQA Guidelines §15150). Incorporation by reference is recognized as a necessary device to limit the size and cost of EIRs. Cognizant of the fact that the Downtown EIR was still a Draft document which had not been certified at the time that this Draft Supplemental EIR was available for public review, the Planning Commission has accepted comments on the Downtown EIR to be responded to in these Supplemental EIRs. Since close of the public review period on this Draft Supplemental EIR, the Responses to Comments on the Downtown Plan EIR have been made available to the public (September, 1984) and the Downtown Plan EIR has been certified (October 18, 1984).

The Responses to Comments on the Downtown Plan DEIR are hereby incorporated by reference. These Responses cover, among other things, land use and building space issues, clarifications and more detailed

explanation of methodologies used to forecast amounts of space and number of employees likely to be in the C-3 District in the years 1990 and 2000, discussion of the methodologies used to project transportation impacts, some revisions to air quality impacts methodologies to satisfy AQMD requests that worst possible traffic situations be reflected in curbside CO calculations, clarification of seismic impacts, further explanation of residence patterns forecasts, expanded discussions of regional land use, employment and residence issues and text changes to correct errors where appropriate.

References to the "Draft EIR on the Downtown Plan" or the "Downtown Plan DEIR" in these Supplements have been changed to read "Downtown Plan EIR" or some equivalent, and any revisions made in the Downtown Plan EIR as a result of comments received that also necessitate revisions in material in this Supplement have been included in Responses or in the Staff Initiated Text changes section at the end of this document.

COMMENT

The project sponsor requests the following revisions (revisions underlined):

"Chapter II., Summary, Section B., Environmental Impacts, the second sentence of the third paragraph on page 6:

'The project (190,300 net additional square feet of office and retail space) would represent about 0.9 percent of this amount.'

"Chapter V., Environmental Impact, Section A., Introduction of Cumulative Impact Analysis, page 40 of the SEIR, the first sentence of the first complete paragraph be revised as follows:

'The project as built (190,300 square feet of net additional office and retail space) can be compared to each of these estimates of cumulative development.'

RESPONSE

The text has been revised as requested.

COMMENT

"The discussion of Cumulative Impact Analysis in the Summary should cross-refer to the material beginning on page^[38]." (Howard N. Ellman, letter of 8/23/84)

RESPONSE

In response to this comment, the following sentence is added as a last paragraph on page 6 of the Supplemental EIR: "For more detailed discussion, and a chart comparing the two approaches, see Section V.A. Introduction to Cumulative Impacts Analysis, pp. 38-40."

F. TRANSPORTATION

1. Cumulative Impacts / Travel Demand

COMMENT

"The total number of P.M. Peak Hour and Period trips listed on table 1, page 42, should be corrected. The columns sum to 620 and 385, not 650 and 390. Even rounding does not bring 620 to 650." (Letter, K. L. Wong)

RESPONSE

Table 1, p. 42 of the DSEIR, has been revised to correct typographical and round-off errors to read as follows (changed numbers are underlined):

"

TABLE 1: PROJECTED OUTBOUND TRAVEL DEMAND BY MODE FROM THE PROJECT (pte/a/)

<u>Travel Mode</u>	<u>P.M. Peak Period/b/</u>	<u>P.M. Peak Hour/b/</u>
Drive Alone	90	60
Car/Vanpool	95	<u>70</u>
Muni	160	85
BART	120	80
AC Transit	30	20
SamTrans	10	10
SPRR	10	10
GGT Bus	30	20
Ferry	5	--
Walk Only	60	30
Other	10	5
TOTALS (rounded)	<u>620</u>	390

/a/ Person trip-ends.

/b/ The peak hour occurs during the two-hour peak period of 4:00-6:00 p.m.

SOURCE: Environmental Science Associates, Inc.

"

COMMENT

"For project-specific impacts: year 2000 modal splits should not be used for impact evaluation. The buildings are practically completed and partially occupied. 1984 modal splits should be used." (Letter, Carl Imparato)

RESPONSE

The analysis contained in the DSEIR is an analysis of cumulative impacts of future development in the year 2000. The project has been evaluated under a year-2000 modal split, to be consistent with and to allow comparison with, the analysis of the cumulative development

in that horizon year. To assign project travel in the year 2000 under a 1984 modal split would be to assume that project travellers would not alter, in the least, their travel patterns over a 16-year period, a clearly worse-than-worst-case assumption (such an assumption would overestimate single-occupant auto use, but would also underestimate some transit use). The fundamental assumption in the application of a future modal split to project travel is that the project travellers would behave in a fashion similar to the majority of travellers in the downtown. As noted on p. 41 of the DSEIR, the year-2000 modal split is derived from aggregate data for the C-3 District, which includes travel from the project.

COMMENT

"In Table 2: the exclusion of non-C-3 projects from the list-based impacts column is unjustifiable. It reduces the impacts from those associated with 19 million gsf of projects on the cumulative development list to just 13 million gsf worth of impacts, when clearly, all 19 million gsf of projects will affect the regional transit agencies and transportation corridors described in the Table. Please revise the analysis or add an additional column to show these impacts." (Letter, Carl Imperato)

RESPONSE

As stated on pp. 46 and 48 of the DSEIR, "Table 2 shows a comparison of the projections of travel demand from the list-based analysis and from the Downtown Plan Draft EIR for the year 2000. While the list contains development both inside and outside the C-3 District, the Downtown Plan Draft EIR makes specific projections only for C-3 District development, and the travel components shown in Table 2 are for the C-3 District only; therefore, for purposes of comparison, travel from the C-3 component of the list (about 13 million gross sq. ft. of net new office space and 0.4 million gross sq. ft. of retail space) has been analyzed for comparison with the projections from the Downtown Plan Draft EIR for Alternatives 1 to 5 and the Downtown Plan."

Additionally, note /a/ of Table 2 states, "The list also contains development located in the greater downtown area outside the C-3 District; travel from those projects has been included in the list-based travel shown in the remainder of this section."

Travel from the non-C-3 development on the list is not included in Table 2 since it is not comparable to the remainder of Table 2. Table 2 is not a comparison of impacts; rather it is a comparison of the differences in the projections of travel demand between the two processes. Further, the requested comparison of impacts is made in Tables 3 and 5 for transit and regional auto travel. The following sentence is added to the end of the first paragraph on p. 48 of the DSEIR:

"The impact analysis (see pp. 50-66) has considered the total amount of development (both C-3 and non-C-3) on the Cumulative List."

COMMENT

"Do the DEIR transit and transportation analyses assume the load from other counties on these systems in addition to the demand that will be placed on them by San Francisco development." (Letter, David Jones)

RESPONSE

As noted on p. C&R-E.16 of the Summary of Comments and Responses for the Downtown Plan EIR:

"The travel analysis takes a regional perspective on the use of the transportation systems serving Downtown. Non-C-3 travel growth at the regional screenlines was projected on the basis of historic trends in growth at the regional screenlines. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region. Employment projections or estimates of development potential based on plans or lists of projects) are not specifically used in the non-C-3 travel analysis. Because analysis of non-C-3 travel has been conducted for discrete locations (i.e., the regional screenlines) there is no direct relationship between non-C-3 land use, employment, or housing and the non-C-3 travel analysis."

Travel through San Francisco to other parts of the region is "the load from other counties on these systems" (as designated in the comment) at the analysis screenlines.

COMMENT

"Page [52] . There should be a year 2000 column, at least I think logically that would be what would follow. We have 1984 and the year 2000 with a project alone. Then we have 1984 plus cumulative list. And I would presume we should add year 2000 with a cumulative list to make the page consistent." (Transcript, Commissioner Bierman)

RESPONSE

As noted on p. 46 of the DSEIR, the cumulative list method is an alternative way of projecting future transportation impacts. The column in Table 3, p. 52 of the DSEIR, headed "1984 + Cumulative List" is developed by adding travel from all development on the March 10, 1984 DCP list to travel existing in 1984. As noted on p. 48 of the DSEIR, the 1984-plus-list projections are for a mid-1990s time frame; that is, the conditions described under 1984 plus the List would be expected to occur in the mid-1990s. The year 2000 projections shown in Table 3 were based on forecasts of land use and employment for the year 2000 that were developed independent of a list of cumulative development. Thus, adding the travel from the development on the Cumulative List to the travel forecast for the year 2000 would give erroneous conditions since it would double count, at a minimum, the development in the C-3 District between 1984 and 2000. If the comment meant that a list-based analysis for the year 2000 be conducted, the mechanics of the list are such that the current list contains development that would be constructed and occupied

by the mid-1990s. To extend the list-based analysis to the year 2000 would require knowledge of specific development yet to be proposed in the next five years. As such knowledge is clearly speculative, a list-based analysis for the year 2000 is not possible at this time (see also Section E, for a discussion of extending the list of projects).

COMMENT

"The Draft EIR states in the third paragraph on page [41] that: 'Analysis of the transportation impacts of cumulative development in San Francisco EIRs has been the subject of considerable public discussion . . .' without mentioning the fact that it has also been the subject of considerable litigation, including the Russ Building Partnership case, a case which could conceivably produce a complete judicial nullification of the approach the City has taken. Without such a statement, the Draft EIR is incomplete."
(Letter of Howard N. Ellman)

RESPONSE

The sentence quoted in the comment was intended as an informational point. The Introduction of the DSEIR contains discussion (on pp. 1-2 of the DSEIR) of the litigation regarding cumulative impacts in San Francisco EIRs that led to the preparation of the DSEIR. The Russ Building Partnership case did not question the method of cumulative impact analysis in San Francisco EIRs; rather, it questioned the legality of the City's method of obtaining a new funding source for Muni (the Transportation Development Impact Fee or TDIF). Although the TDIF draws from data used in cumulative impact analysis in EIRs, the outcome of the current litigation (in favor of the City) or the potential success of any future appeals would not be cause to modify the cumulative impact analysis used in San Francisco EIRs.

COMMENT

"The paragraph describing 'person-trip-ends' on page 7 . . . doesn't make sense to the unsophisticated reader without the explanation provided on page [67]. Suggest adding:

'A more detailed explanation of the calculation of 'person-trip-ends' is set forth on page [67].'" (Letter of Howard N. Ellman)

RESPONSE

The information presented on p. 7 of the DSEIR is part of the section headed "II. SUMMARY" and is thus summarizing the material in the body of the EIR. Additionally, the data in question is a summary of results, not the method by which the results were obtained; in this, the transportation summary does not differ from the other summary sections where only results are presented. As noted on p. 7, the travel by mode is incomplete, as only the "main peak-period trip contributions" are listed, not all of the travel by mode.

COMMENT

"Despite the specific ruling of the State Court of Appeals regarding the failure of the analyses of cumulative impacts of the original EIR's for these four projects, these supplements prepared as a result of that ruling continue this fundamental analytical malpractice by the Department of City Planning.

"At issue in these comments is the treatment in the four supplements of the impacts of regional cumulative development on the regional transportation systems, including BART, the freeways, etc.

"While cumulative San Francisco commercial office development, now finally disclosed to be almost 20 million square feet for the purposes of these EIR's (plus, of course in another setting, the added development proposed to be "accommodated" by the Downtown Plan whose EIR is also now in the 'response' phase), is the largest amount in the Bay Area, it is by no means the only relevant development to the functioning of the regional transportation systems; nor is the cumulative development, using the same standards of that which should be considered "reasonably foreseeable", in other counties negligible - in fact it may in total approach an additional 20 million square feet."

"This other foreseeable reasonable cumulative development cannot be legally ignored by OER in the preparation of San Francisco EIRs if it has major impacts on the regional transportation systems upon which San Francisco development must depend. And, oh brother, does it!

"The base document for these comments is the 12/83 DEIR for "Oakland City Center", prepared by the City of Oakland (ER82-36), wherein the cumulative impacts of more than 12 million [square feet] of reasonably foreseeable office development in Oakland by 1995 (starting 1982) are evaluated. The focus of these comments, for clarity and simplicity, is the Bay Area Rapid Transit System, which must serve both the San Francisco cumulative development and the Oakland cumulative development.

"But remember, the same methodological failure of these four EIR Supplements (as well as the Downtown Plan EIR upon which they are admittedly based) applies in full force to all other regional transit operators, including Golden Gate Transit and San Mateo Transit, as well as to the regional highway network, including I-80, US 101, I-280, SR 17, et al.

"Let's be short and sweet. In Table J.4 of the Downtown Plan DEIR (the Appendix and "Transportation Analyses and Methodologies"), BART trips to the East Bay are shown to increase from 22,660 in 81/82 to 44,390 in year 2000, an increase of 96%. BART trips to southwest San Francisco and San Mateo County are shown to increase for the same period from 7,260 to 10,320, or 42%.

"If the interval is 19 years, these increases average per year, respectively, 5% and 2.2%. Actually, I think it's 18 years, so the percentages are a bit higher.

"This BART increase is critical, by the way, to the whole Downtown Plan. Given the capacity limit of the Transbay Bridge, there has to be a shift, as specifically acknowledged in the discussion of the change in modal split in Appendix J, to mass transit. Given the retrenchment of AC Transit, and its apparently permanent de-emphasis on transbay service, BART is the system that must accommodate this modal shift. And the planned expansion of BART's

transbay capacity via new equipment, controls, etc., is cited by the four EIRs and the Downtown Plan DEIR as the key change that will make that possible.

"But what happens when one adds into the BART equation cumulative Oakland development? The answers from the City Center DEIR are based on a critical assumption about the impacts on BART of San Francisco cumulative development:

"1995 Cumulative: This projection assumes a 2.7 percent (BART) annual transbay ridership increase and an annual 1.2 percent westbay ridership increase due to growth in the San Francisco CBD, and a one percent annual background growth representing non-(Oakland) CBD growth in addition to growth occurring in Oakland.

"So to be perfectly clear, in its DEIR, Oakland forecasts 2.7% versus 5% in the San Francisco DEIRs for BART transbay trip growth from San Francisco development, and 1.2% versus 2.2% for BART westbay trip growth, plus a 1% "background" growth not considered at all in the San Francisco DEIR - not specifically anyway, and never with reference to the East Bay only. (All percentages are annual, straight line, not compound.)

"Do these lower assumptions by Oakland of San Francisco based BART demand matter? You bet your BART seat, transit patron. Read on:

'During this time period BART system capacity is expected to increase 71 percent, partially offsetting the ridership increase. Even so, the load factors on the Daly City to Concord and Richmond to Fremont lines would exceed the performance standard.

'To satisfy the 1/30 load factor standard under the 1995 projected ridership levels, further system capacity increase would be needed.'

"So even while seriously underestimating San Francisco generated BART demand, Oakland sees serious problems for BART. Obviously the most serious impact on BART by the cumulative impacts of both San Francisco and Oakland development is the Concord line, but by no means is it alone.

"Sure, the appropriate percentages can be argued: how much can BART increase capacity, what might actually be built here or there (or elsewhere on the BART system), modal splits, peak spread, and all that. BUT NO SUCH ADJUSTMENTS CAN DISGUISE THE BASIC FLAW OF SAN FRANCISCO'S DOWNTOWN PLAN DEIR OR THE SUPPLEMENTS: THEY DON'T COUNT EAST BAY, OR PENINSULA, OR MARIN CUMULATIVE DEVELOPMENT AT ALL. So nothing they say about this is honest, factual, complete, adequate, or most important, useful.

"Mr. Bash, Mr. Macris, and Mr. Mihaly, this game is over.

"If you continue to ignore the impacts of cumulative regional development on the regional transportation systems through the arbitrary use of analytical "screenlines" that pretend there is no relevant East Bay, North Bay, or South Bay/Peninsula development, impacts, considerations, or whatever you wish to call it, that must be taken into account in CEQA evaluation of San Francisco development - most vitally the Downtown Plan - then you are flagrantly conducting the "abuse of discretion" of which the State Court of Appeals had so much to say in its ruling on the original version of these projects' EIRs." (Letter, John Elberling)

"These Supplemental EIRs continue the tradition of downtown San Francisco office project EIRs completely ignoring the impacts of non-San Francisco growth when calculating impacts on regional transit and transportation systems. Growth in downtown Oakland and other major centers must be factored into calculations of capacity availability and Levels of Service. Theft of regional capacity by San Francisco, an implicit (sic) assumption of these EIRs, is inappropriate. (Letter, Carl Imparato)

RESPONSE

The Draft EIR cited in the comment (Oakland City Center DEIR, December, 1983, ER 82-36) uses a list of projects in downtown Oakland for the analysis of cumulative transportation impacts. Projects on the list are either recently completed, under construction, approved or planned and add to a total of 10.1 million sq. ft. of development (Tables 13 and 14, Oakland City Center DEIR). In addition, the Oakland City Center project, which is the subject of the EIR, includes 4.0 million sq. ft. of office and retail space (Table A-3, Oakland City Center DEIR). The total amount of space used in the analysis of the impacts of the project plus cumulative downtown development is thus about 14 million sq. ft. For the purposes of the Oakland City Center DEIR, two years were selected as build-out years: 1985 and 1995. A total of about 3.7 million sq. ft. is assumed in the 1985 analysis (218,000 in the project plus 3,533,500 in the list of downtown projects). The 1995 analysis assumes about 10.4 million sq. ft. would be added downtown (3,796,000 in the project plus 6,575,000 in the list of downtown projects).

According to data compiled by the Association of Bay Area Governments (ABAG), from Cushman and Wakefield, and the Oakland Chamber of Commerce, about 225,000 sq. ft. of office space were added each year, on average, from 1965 through 1979, throughout the City of Oakland. About two-thirds of this amount (150,000 sq. ft. per year) was added in the downtown area (including both the 19th Street and 12th Street areas). (See ABAG, Bay Area Office Growth, April, 1981, p. 32.)

In the 1980's, downtown Oakland office building construction has increased substantially. The Chamber of Commerce Office Building Inventory (January, 1984) shows an average annual addition of 320,000 sq. ft. over the four years from 1980 to 1983 throughout the City, with 225,000 sq. ft. per year (70 percent of the total) in the downtown area. In the Chamber of Commerce inventory, the total amount of existing space in Oakland office/commercial buildings of 30,000 sq. ft. or more (as of January, 1984) is estimated to be 9.2 million sq. ft., 7.5 million sq. ft. (80 percent) of which is in the downtown area.

The space in projects on the cumulative list used in the Oakland City Center DEIR (14 million sq. ft.) would add two times as much office space to the downtown as currently exists (7.5 million sq. ft.). Eventually, this amount of space could be absorbed. For it all to be absorbed in the 12 years from 1984 through 1995 would imply an annual rate of absorption of 1.2 million sq. ft. per year for downtown Oakland alone. This is not justified on the basis of either past experience or market studies (even those which indicate substantial improvement over this time period in the absorption of space in downtown Oakland). This high rate of absorption is close to the long term average annual rate for the City of San Francisco.

The Draft EIR for the Oakland City Center project includes no economic or market analyses which might support the inclusion of either all of the project or all of the cumulative development within the analytical time frame chosen. This was noted in the Comments on the Draft EIR, and the Responses to Comments in the Final EIR (pp. 77-78) address the issue of market demand for office space in downtown Oakland.

The response cites a market analysis prepared for the project sponsor (The Long-Term Market Outlook for Office Development in Oakland's City Center, Economics Research Associates, August, 1983). According to this report, office space in the Oakland/Emeryville area was absorbed at an annual rate of about 205,000 sq. ft. per year from 1978 through 1982. At this recent rate, assuming downtown Oakland captured 100 percent of the demand, the 14 million sq. ft. on the cumulative analysis list would be absorbed over a period of 70 years. The market analysis report anticipates that annual absorption in the Oakland/Emeryville area will increase in the future to over 500,000 sq. ft. per year through the early 1990's and up to about 800,000 sq. ft. per year through the 1990's, as East Bay office development is expected to capture a larger share of total regional office development in the future. Future annual office absorption rates in downtown Oakland through the 1990's are expected to average about 466,000 sq. ft. per year, according to the forecasts in this market study. At this rate, the 14 million sq. ft. in downtown projects on the cumulative list would be absorbed over 30 years, by about 2015.

The San Francisco City Planning Department and its consultants have not done detailed analyses and forecasts of future development in downtown Oakland. From review of available data and other studies, however, it is reasonable to conclude that the 14 million sq. ft. of future cumulative development for downtown Oakland presented in the Oakland City Center EIR is unlikely to be absorbed by the year 2000 (the analytical end point for the Downtown Plan EIR.) It would thus not be appropriate to factor this total amount of development into a cumulative regional analysis of the impacts of growth to the year 2000. In the Downtown Plan EIR impact assessments of C-3 District growth, citywide and regional parameters to the year 2000 were incorporated as relevant to provide a context for analyzing the effects attributable to C-3 District growth.

The comment suggests that the only way to assess the impacts of growth from the broader "cumulative" perspective is to analyze all other development in the rest of the City and the region that presumably would contribute to the future context. It is not possible simply to define the citywide and regional context for impact assessment as the sum total of all plans and projects currently under review in either the City or the region, however. Such a tabulation would not be a forecast associated with any particular analytical time period as demonstrated in the above discussion of the Oakland City Center EIR. It would not have a clear end-point, such as the year 2000, within which to estimate or forecast other parameters, and it is not reasonable to predict effects for air quality, transportation systems or other physical environmental issues for an indefinite time period.

Although some project information (square feet of space and potential employment) provides an indication of the general magnitude of development activity expected (and was used in this general way in preparing the C-3 District growth forecasts), the analysis does not exist that would enable conversion of this information to a consistent set of citywide and

regional residence patterns or commute patterns that could be used to measure the contribution of C-3 District growth.

Therefore, the approach in the Downtown Plan EIR was to use data and forecasts that were available for each subject area (i.e. housing or transportation) to provide the citywide and regional contexts for impact assessment. This approach had the advantage of providing an overview context that was consistent with the time frame for the EIR analysis, while avoiding the uncertainties in terms of amount and type of development, and timing, inherent in tabulating a list of potential projects and plans and attempting to develop cumulative housing or transportation information on this basis.

For example, the housing impact assessment in the EIR uses ABAG's employment forecasts to describe the growth that is expected to occur throughout the region by the year 2000. These forecasts incorporate the plans and projects that are expected to be completed by 2000. They also include future employment in projects as yet not conceived or proposed. This approach provides a cumulative employment context that is consistent with forecasts of expected future housing and labor force throughout the region. To assess housing impacts, it is important that expected growth of employment be analyzed within the context of expected growth of the housing supply and of the region's workforce for consistent time periods. Deriving growth from a list of projects would not assure that the time frame for the commercial and industrial projects would be consistent with that for the residential projects or with the time frame of available forecasts of housing and employed population. (The future regional context for the housing impact assessment in the Downtown Plan Draft EIR is described in more detail in the Downtown Plan Draft EIR Responses to Comments, Section D.3.2.1, and summarized as relevant for these Responses to Comments in the Residence Patterns and Housing Section.

Regarding the "retrenchment of AC Transit," as stated on p. C&R-E.49 of the Responses to Comments on the Downtown Plan EIR:

"AC Transit is beginning a multi-year planning, operations and marketing study for its service area. The first service changes, which will be instituted this fall and winter, resulted from an impending operating deficit. However, future route re-structuring will be proposed to improve intra-East Bay and transbay access (e.g. some local service will be converted to limited or express service on longer lines in order to improve transit travel time and to allow the use of articulated buses). One of the proposals was approved on August 22, when the BART Board of Directors approved transfer of \$3 million to AC Transit for feeder service to BART stations. This service will shift off-peak direct service between the East Bay and San Francisco on the B, C, E and K lines to service terminating at BART stations, with a fare discount to equalize the cost to riders. This change in service will reduce the cost of running nearly-empty buses to San Francisco during non-commute hours when BART capacity is available. The EIR analyses need not be revised, as peak-period AC transit service to and from San Francisco would not be affected."

The concept of "theft of regional capacity" (as noted in the comment) has been discussed in the Response to Comments on the Downtown Plan EIR with regard to transit on p. C&R-E.45 as follows:

"It has been suggested by some commenters that San Francisco could subsume some or all of the region's transit supply. The only carrier for whom that represents a remote possibility is BART as all other transit service analyzed provides radial service to San Francisco on an almost-exclusive (express) basis. [Under the operating charters of Golden Gate Transit, AC Transit and SamTrans, the three transit agencies are not allowed to provide local service within the City and County of San Francisco (e.g., a person boarding in the City must remain on the transit vehicle until crossing the County line before departing). By its very nature, express service to San Francisco provided by these three transit agencies means that there are limited opportunities for riders to board and depart outside of San Francisco (e.g., most express service has a very limited service area where local service is provided). Consequently, the majority of riders on transit vehicles providing express service to San Francisco are destined for San Francisco. Thus, increased commercial development in areas between the origins of the express routes and San Francisco has little effect on the ridership patterns of the express service since persons wishing to use transit to reach such new areas of commercial development would use local transit service or express service directed to the new development, not express service to San Francisco.] The EIR analysis (p. IV.E.8 and Figure IV.E.1) measured the impacts of regional transit at the perimeter of the Greater Downtown area (where travelers from the C-3 District are most concentrated). BART is the only system analyzed that provides substantial service to destinations other than San Francisco.

"BART's ridership is most concentrated in the Transbay Tube (its maximum load point). If BART demand from outside San Francisco increases, especially to East Bay destinations like Downtown Oakland and Berkeley, ridership could be added without affecting service to the San Francisco market. Discussions with BART staff have confirmed that the completion of the Oakland Wye [KE] track (in 1986) would physically allow the institution of two new routes using the existing track configuration. A Concord-Oakland short line could be developed, as could a Concord-Fremont line. Increased ridership demand on the Richmond-Fremont, Fremont-Daly City, and Richmond-Daly City lines can be absorbed with the additional equipment that has been ordered (these lines regularly operate trains with less than the maximum allowable 10 cars)."

With regard to highway, freeway, and bridge capacity, the Response to Comments on the Downtown Plan EIR states on p. C&R-E.56:

"These increases in traffic [on regional freeways and bridges] cannot properly be attributed to C-3 growth in San Francisco. . . . the absolute number of cars entering Downtown has not materially changed in twenty years. . . . Those commuter autos cited in the comments are not bound for San Francisco's Downtown, rather for suburban employment centers throughout the Bay Area. Growth in suburban employment is the causal factor for increased traffic congestion on the region's highways, not increased employment in San Francisco's Downtown. Traffic volume increases and congestion measurements show that bridges and freeways directly serving San Francisco have had the slowest percentage increases in the region. . . . Thus, rather than San Francisco C-3 District growth subsuming all the regional highway capacity, as several commenters have suggested, it is more likely that the opposite will occur."

Even if it were appropriate to use the growth rates assumed in the Oakland DEIR, those numbers, while used correctly in the Oakland DEIR, are misrepresented in the comment. The growth rate of 2.7% per year from the Oakland City Center DEIR is an annual rate taken from the I-280 Transfer Concept Program, Working Paper 1.5.6 (see note 1 on p. IV-62 of the Oakland DEIR). As an annual average rate, the application of such a rate inherently requires compounding. The comment has represented this rate as "straight line, not compound." The comment proceeds to develop a comparable growth rate for BART travel from data contained in the Downtown Plan EIR by dividing the increase in Transbay BART travel between the years 1981/82 and 2000 (96%) by 19 years to get an "annual" growth rate of 5% per year. It is inappropriate to divide the total percent increase (96%) in Transbay BART travel by the number of years in the period (19); rather, the rate should be calculated to account for the compounding effect of an annual growth rate. The correct value of the Transbay BART growth using the data the comment cites from the is 3.6% per year. Additionally, the data the comment cites from the Downtown Plan EIR is taken from what is clearly identified as an intermediate step in the Downtown Plan EIR travel demand analysis (i.e., Table J.4 of the Downtown Plan EIR, see note "a" in the table). A more appropriate data source is Table 3, p. 52 of the DSEIR, where over a 16 year period, BART travel to the East Bay during the peak period is shown to grow from 25,800 riders to 44,100 riders, a growth rate of 3.4% per year. A similar misuse of Downtown Plan EIR data is made in the comment with respect to Westbay BART travel. As cited in the comment, the Oakland DEIR yields Westbay BART growth of 1.2% while the Downtown Plan EIR data is incorrectly represented to yield 2.2%. When the effect of compounding is included and the correct Downtown Plan DEIR data is used, the Westbay BART growth for the Downtown Plan EIR is 1.6% per year.

Table 18, p. IV-63 of the Oakland DEIR, shows that the BART analysis has been carried out on a screenline basis using screenlines that correspond to the Oakland CBD in the same manner that the screenlines used in the DSEIR correspond to the San Francisco downtown. The Oakland DEIR uses screenlines north of MacArthur Station for northbound and eastbound travel, south of Lake Merritt Station for southbound travel in Oakland, and west of San Francisco Civic Center Station for westbound travel. Although the Oakland DEIR's use of the screenline west of San Francisco Civic Center Station as the West Bay screenline for westbound travel may appear to imply that the Oakland analysis takes more of a regional perspective, the reality of the situation is that BART does not maintain p.m. peak-period load factor data at a transbay screenline for westbound trains from Oakland. Rather, BART uses the Civic Center screenline as its West Bay screenline for westbound travel. In the case of the East Bay screenline for San Francisco, the transbay screenline is the maximum load point (MLP) for the entire BART system (with the exception of the Richmond-Fremont line, which does not use the transbay tube). This condition is illustrated by the following MLP data for the BART system:

Representative P.M. Peak Load Factors on BART

<u>Line</u>	<u>Eastbound Transbay</u>	<u>North & East from MacArthur</u>	<u>Southbound Lake Merritt</u>	<u>Westbound Civic Cntr.</u>
<u>July-September 1981</u>				
Daly City-Concord	1.30	1.28		
Daly City-Fremont	1.23		1.14	
Daly City-Richmond	1.17	1.00		
All - Daly City				0.64
<u>April-June 1983</u>				
Daly City-Concord	1.29	1.30		
Daly City-Fremont	1.37		1.31	
Daly City-Richmond	1.19	1.02		
All - Daly City				0.93

SOURCE: BART, "Representative P.M. Peak Load Factors" for July-September 1981, and April-June 1983

Note in the above chart that loadings on the Daly City-Fremont and Daly City-Richmond lines show a pattern of lower load factors at the Oakland CBD screenlines than at the transbay (San Francisco) screenline, while the Daly City-Concord lines show essentially constant loadings at both screenlines. This means that the amount of additional BART travel originating in the Oakland CBD on the Daly City to Richmond, Fremont and Concord lines is not causing the overall peak-period loadings to change from that experienced in the Transbay Tube. This is also the result of the fact that some transbay BART riders depart the system in the Oakland CBD or change to other trains, which makes space for riders entering the system in the Oakland CBD. Thus, on the basis of MLP locations, it is appropriate to use the transbay screenline for San Francisco travel analysis, since the maximum loadings occur at this screenline for eastbound travel.

The Oakland DEIR uses an unsupported assumption -- a 1% per year background growth factor -- to reflect non-CBD growth. Whether the growth is non-Oakland CBD or non-San Francisco CBD is not clear from the text of p. IV-69 of the Oakland DEIR. As stated in the Response to Comments on the [San Francisco] Downtown Plan EIR on p. C&R-E.16:

"The travel analysis takes a regional perspective on the use of the transportation systems serving Downtown. Non-C-3 travel growth at the regional screenlines was projected on the basis of historic trends in growth at the regional screenlines. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region. Employment projections or estimates of development potential (based on plans or lists of projects) are not specifically used in the non-C-3 travel analysis. Because analysis of non-C-3 travel has been conducted for discrete locations (i.e. the regional

screenlines) there is no direct relationship between non-C-3 land use, employment, or housing and the non-C-3 travel analysis.

"Historic transportation growth rates have been used to project increases only for non-C-3 District travel at the regional screenlines (referred to on pp. J.20-25 of the EIR). No other use of historic growth rates has been made in the transportation analysis. Historic growth rates were not used to project future development or employment either in the C-3 District or outside the C-3 District. Because of the individual and unique nature of each of the transportation screenlines, each growth rate is based on data for that location. Thus, the growth rates for freeways project growth in auto trips, while the growth rates for transit project growth in ridership. As noted in the EIR, the screenlines were selected on the basis of their relationship to travel leaving San Francisco and thus the majority of travel at the screenlines is related to San Francisco. With the C-3 District travel comprising between 50% and 90% of the peak-hour travel at the regional screenlines, changes in non-C-3 travel at the screenlines constitute relatively small portions of the total future peak-hour travel volumes.

"Each of the historic growth rates inherently contains information about regional growth in travel patterns and thus incorporates not only growth from other parts of San Francisco, but elsewhere in the region. As an example, the historic growth rate for trips southbound on US 101 includes travel that crosses the Bay Bridge or the Golden Gate Bridge as well as travel from San Francisco. However, the growth rates describe travel, they do not directly relate to growth in space or employment."

Regarding the analysis of effects outside the boundary of the screenlines (i.e., at points further removed where conditions may be worse than at the screenlines), by their definition the screenlines are points of maximum effect of travel from the C-3 District; at points further removed from the screenlines, C-3 District travel would be a lesser percentage of the total and thus the overall effects of C-3 District travel would be less than at the screenlines.

Comparison of the Oakland DEIR BART projects for 1995 with those in the Downtown Plan EIR for 2000 show that the composite eastbound and northbound peak-period load factors are 1.39 for the Oakland DEIR and 1.40 for the Downtown Plan EIR, while the westbound peak-period load factors are 0.54 for the Oakland DEIR and 0.91 for the Downtown Plan EIR. As BART has redefined its service standard to 1.50 from 1.30 passengers per seat, none of the above loadings would violate the service standard. At a disaggregated level, the Daly City - Concord line is projected to operate at 1.53 and 1.55 in the Oakland DEIR and the Downtown Plan EIR, respectively. Crush loads on BART are in the range 1.70 to 1.80 passengers per seat so while violating the service standards, the projected Daly City - Concord loadings would be at less than jammed. Such a pattern of loading would be improved if Oakland-Concord short-line operations were instituted. With regard to the results of the two methods, the Oakland DEIR appears seriously to underestimate the westbound BART (i.e. San Francisco-based demand) ridership in the future.

COMMENT

"Additionally, the new "list-based" approach used in these Supplemental EIR's is based on the 9/83 Transportation Guidelines. Please compare these guidelines to those used in the original EIR's, compare the resulting projections, and explain and justify any differences between the two."
(Letter, Carl Imparato)

RESPONSE

The cumulative analyses conducted for the FEIRs were performed in accordance with the October 1980 Transportation Guidelines. The September 1983 Transportation Guidelines are an updated version of the October 1980 Transportation Guidelines that incorporate data regarding travel in the downtown collected in the interval between publication of the two documents. The procedure for calculating project and cumulative impacts is essentially the same in each document (e.g., trip generation rates are applied to land uses for the project to get total travel, which is then distributed using a standardized modal split; cumulative travel is calculated by applying the same process to a list of under-review, approved, or under-construction projects in the downtown).

The differences between the two documents are the data used to calculate the impacts. In the 1983 Guidelines, both the trip-generation and modal-split data were updated to make use of survey data from specific land uses in the downtown. The 1980 data base relied on published national data for trip generation and on a series of independent surveys of travel habits of selected downtown firms. Between 1980 and 1983, several trip generation surveys were conducted at downtown San Francisco office locations. Additionally, new information about travel patterns (mode splits, etc.) was obtained from a statistically valid survey of downtown employees (all categories, not just office), and sampling surveys of visitors and shoppers. The 1983 Transportation Guidelines include all of these data, in place of the data used in 1980. Because the 1983 data are specific to San Francisco and represent larger samplings of downtown workers and visitors than do the 1980 surveys, the 1983 data are considered to give better estimates of travel from downtown buildings than do the 1980 data. The following chart summarizes the data changes for office space impacts between the 1980 and 1983 Guideline documents:

	<u>1980 Guidelines</u>	<u>1983 Guidelines</u>
Daily Trip Generation (pte are person trip ends)	0.0175 pte/net sq. ft. (0.0140 pte/gross sq. ft.)	0.0181 pte/gross sq.ft. (0.0226 pte/net sq. ft.)*
P.M. Peak-Hour Percentage effective trip generation	20% 0.00280 pte/gross sq. ft.	10.4% 0.00188 pte/gross sq. ft.

(continued)

1980 Guidelines1983 Guidelines

Percent of Peak-hour Travel Assigned to:

San Francisco	49%	49%
Peninsula	16%	11%
East Bay	24%	32%
North Bay	11%	8%

Percent of Peak-hour Travel Using Each Mode:

Auto	36.0%	29.0%
Muni	25.8% + 3% transfers	28.1%
BART	15.1%	21.4%
AC	8.4%	6.2%
SamTrans	1.5%	1.2%
SPRR	4.4%	1.9%
GGT	4.6%	3.6%
Ferry	1.4%	1.1%
Other (includes walk)	2.8%	7.4%

* conversion based on 0.80 net sq. ft. / gross sq. ft.

The other major difference between the two approaches is in the size of the list of cumulative projects. The 1983 Guidelines direct the user to the official list compiled by the Department (which is more comprehensive than the lists used in the FEIRs); or to a procedure that projects growth (i.e., as in the Downtown Plan EIR), rather than relying on a list (see p. 5 of the 1983 Transportation Guidelines). NOTE: Specific comparisons between results in the original FEIRs and the SEIRs appear in Appendix G, as "Staff-Initiated Text Changes."

COMMENT

"One problem I had on the EIR, on this EIR, was Table, I think it's Table 2. And it shows what the 3-10-84 list would predict for Muni travel and what the Downtown Plan EIR would predict for Muni travel.

"To the northeast, the list shows Muni with 900 people in the peak hour. The Downtown Plan shows 1,600, which is twice as many.

"For the Muni northwest, the list shows 3,700. The Downtown Plan shows 1,800, which is half as many.

"To the northwest, southwest, the list shows 3,100; the plan shows 1,100. The list shows three times more.

"And to the southwest, the list shows 600, and the plan shows 1,100, which is half as much.

"So then I go to read -- the writers of the EIR noticed a discrepancy here. And the three reasons they gave for discrepancies was: Hey, guess what? The list-base approach had a different time frame. So that is one reason they're different. Another reason is the C-3 internal travel wasn't calculated in the

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list approach, but it was used in the Downtown Plan. And the third is that there will be less available housing in one model than the other.

"So then I go back to these numbers. Well, the list-base approach should have a constant factor. It should make the whole list less. But this thing, some things in the list end up with a third as much. Some things in the list are twice as big. So that didn't explain much to me.

"The fact that there was internal C-3 travel should be true no matter which of the four directions you go, I presume. But again, in some directions, the plan was three times higher than the list, and some, the list was twice as high as the plan.

"I could not find any reason for these contradictions. We are having numbers that are three, four, five hundred percent different. And the explanations are subjective, qualitative, one-paragraph, hand-waving things that sort of try to explain away differences of a magnitude of four or five times. I think that is just one example of this type of plan. A lot of numbers that seemed wrong in one paragraph of sort of hand-waving explanations try to explain away millions of square feet of discrepancies or ridership discrepancies. And I would like in the final plan to have the explanation of this quantified. Because to have a qualitative paragraph explain away a 400 percent difference is really not that instructive to me." (Transcript, David Jones)

"Table 2 shows that the Downtown Plan projections for cumulative MUNI demand from new office development are approximately twice as much as the list to the Northeast. One-half as much as the list for the Northwest, one-third as much as the list for the Southwest, and twice as much as the list to the Southeast.

"Why is there such a drastic difference within San Francisco in the relative increases?

"Are the same discounting factors regarding internal C-3 trips used in each of the four MUNI transit corridors?

"Did the employee surveys which indicated substantial internal C-3 travel indicate that this internal travel happened more or less during the peak hour and peak period commute? If this internal C-3 travel was based on daily averages, is it valid to use the discounting factors during the peak period?

"Did the model assume the relative availability of housing was going to be the same throughout the City?

"The qualitative reasons for the differences in these approaches should be quantified to explain the magnitude of these differences. A 400% difference needs more than just a hand-waving qualitative explanation.

"The FEIR should contain a revised table 2 based on a list of comparable time frame as requested in part II of these comments. The FEIR should explain in quantitative terms the vast differences between the two approaches." (Letter, David Jones)

"Please compare, in a single table, the project impacts (pte's), impacts on all transit agencies and transportation corridors, vte's, parking space demand, etc.) based on:

- (i) the methodology and guidelines used in the original EIR's
- (ii) the 9/83 Transportation Guidelines-based methodology
- (iii) the project's share (i.e., project gsf/total office gsf) of the impacts forecasted using the Downtown Plan methodology and assumptions.

"Please do the same for cumulative growth impacts - i.e., compare the Downtown Plan's impacts (associated with 16.8 million gsf of office growth) with the impacts based on the same amount of net office growth using (i) and using (ii)." (Letter, Carl Imparato)

RESPONSE

As noted on pp. 46-50 of the DSEIR, the estimates of travel demand shown in Table 2 of the DSEIR projected using the Downtown Plan EIR method and the September 1983 Transportation Guidelines method differ for the following three major reasons:

- the total amount of travel projected by the two methods is different (the list-based analysis projects less cumulative travel);
- the two methods use different residential distributions (the Transportation Guidelines assign more people to San Francisco); and
- the two methods use different modal splits.

Regarding the difference in total travel projection, on a single-project basis, the two methods would project the same amount of travel because the trip generation rates from the 1983 Guidelines were used to project the project travel in the DSEIR. The difference in travel is present only at the cumulative level and is a result of two factors. The primary factor is that the cumulative list method projects less overall travel than does the Downtown Plan EIR Method for the year 2000. This underestimate arises from the fact that the List can project only known development and thus cannot include development yet to be proposed. Conversely, the Downtown Plan EIR method, through the use of forecasts, has estimated additional growth in the future to the year 2000 (growth that the List does not include). As noted on p. 49 of the DSEIR, the secondary difference is a function of the fundamental difference between the two methods. The list-based analysis assumes all cumulative travel will come from only two sectors of development (office and retail), whereas the Downtown Plan EIR projects travel from all sectors of future development. An additional factor complicating the comparison of the two methods is that the list-based analysis employs single-use trip generation data to estimate total travel through the process of adding together the trip generation estimates from all the individual buildings on the list. These single-use trip generation rates do not account for trips going from one building to another within the Downtown. Studies for the Downtown Plan EIR have confirmed that there is considerable travel between land uses in the downtown area. The list-based analysis adds each trip as if it were a new trip in or out of the downtown, and thus overestimates the total number of peak-hour and peak-period trips in and out of the downtown area. Because the Downtown Plan EIR analysis deals with total travel to and from the C-3 District, a refined method of projecting travel that accounted for travel made between land uses inside the C-3 District was used. Because the discounting for trips internal to the C-3 District was applied at the trip generation stage of the travel demand analysis, the

amount of discounting is uniform throughout the analysis (i.e., the internal travel was removed from the analysis prior to assigning travel to subregional zones or to travel modes). Analysis (Intra-CBD Secondary Travel Patterns of Downtown Workers, ASCE, 1982) has shown that while internal travel occurs throughout the day, the majority of internal trips take place during the 11:00 a.m. to 1:00 p.m. period. Additionally, the same data show that between 30% and 60% of downtown workers make trips internal to the downtown during the working day (the ASCE data did not count trips made internal to a single building, only trips between buildings). In terms of the office trip generation rate from the 1983 Guidelines (18.1 pte per 1,000 gross sq. ft.), if an average of 45% of downtown office employees make one trip (2 pte -- one going, one returning) internal to the downtown area during the work day, then approximately 20% of the travel to and from a proposed office building in the downtown would be overcounted as new travel in and out of the downtown area by the 1983 Guidelines. When the effects from more than one land use and more than one proposed building are added together (i.e., the double-counting of the two ends of the same internal trip from office to retail is inherent in the 1983 Guidelines trip generation rates), the effect of overcounting of new travel in and out of the downtown becomes extreme.

The trip generation process used in both methods first calculates travel on a daily basis and then applies peak-hour and peak-period percentages to the daily travel to get peak-hour and peak-period travel. Because the process uses percentages of daily travel to get peak travel, the 1983 Guidelines rates inherently incorporate the same percentage of over-counting in the peak as in the daily travel. For the Downtown Plan EIR, the daily trip generation rates and the peak percentages were selected independently of those in 1983 Guidelines and validated through comparison with observed travel volumes to and from the C-3 District. Because of the validation process, it is not possible to determine the percentage of internal travel discounted from the peak rates in comparison with the discounting at the daily level. Additionally, because of the two discrete time frames used in the Downtown Plan EIR, the amount of internal travel during the peak hour (4:30 p.m. to 5:30 p.m.) differs from that during the peak period (4:00 p.m. to 6:00 p.m.). A trip that remains internal to the C-3 District during the peak hour but leaves the C-3 during the peak period would be counted under the Downtown Plan EIR only as an outbound peak-period trip (which it is in terms of the screenline analysis) whereas the 1983 Guidelines would count it as two outbound trips, one in the peak hour (from the primary land use) and one in the peak period (from the secondary land use).

Regarding the differences in travel by mode in Table 2, the changes in residential distributions and modal splits between the two methods account for most of the differences. (All of the data used to develop the following comparisons is on file with and available for public review by prior appointment with the Department of City Planning, 450 McAllister St., Fifth Floor.) The following chart illustrates how the changes in modal split and the changes in residential distribution affect the total travel assignment. The data in the chart was developed on the basis of the travel demand from a hypothetical downtown building that has 500,000 gross sq. ft. of office space and 40,000 gross sq. ft. of retail space. Such a building would generate about 860 p.m. peak-hour

COMPARISON OF P.M. PEAK-HOUR WORK TRAVEL ASSIGNED USING THE LIST-BASED AND DOWNTOWN PLAN METHODS

Subregional Zone	Guidelines Area%/a/ Guidelines Mode%/b/ Pte/c/		Downtown Plan Area% Guidelines Mode% from 1983/d/		Guidelines Area% Downtown Plan Mode% from 1983		Downtown Plan Area% Downtown Plan Mode% from 1983	
	Pte		Pte		Pte		Pte	
San Francisco Travel								
Drive Alone	42	39	-7%	106	152%	94	124%	
Carpool, Vanpool	37	34	-8%	45	22%	40	8%	
Transit	311	277	-11%	235	-24%	209	-33%	
Other	40	39	-3%	43	8%	42	5%	
Total	430	389	-10%	429	0%	305	-10%	
Regional travel								
Drive Alone	46	55	20%	26	-43%	33	-28%	
Carpool, Vanpool	52	57	10%	114	119%	128	146%	
Transit	326	353	8%	279	-14%	305	-6%	
Other	10	12	20%	6	-40%	8	-20%	
Total	434	477	10%	425	-2%	474	9%	
Total/e/	864	866		854		859		

/a/ Area% stands for the residential distribution used.
 /b/ Mode% stands for the modal split used.
 /c/ Pte stands for person trip-ends.
 /d/ Percent change from results of using 1983 Guidelines Area% and Mode%.
 /e/ Totals vary as a result of rounding.

SOURCE: Environmental Science Associates, Inc.

work-related person trip-ends (pte) under either method of cumulative analysis. The chart shows p.m. peak-hour work travel first assigned on the basis of the 1983 Guideline residential distribution (Area %) and modal split (Mode %). To show the effect of the change in residence patterns and modal split under the Downtown Plan EIR, two intermediate conditions are shown. One condition shows how changing the residence pattern only (i.e., the modal split is not changed) affects the travel assignment. The other shows the effects of changing only the modal split while holding the residence pattern constant. The fourth condition in the chart is that of the composite effect of changing both the residence pattern and the modal split.

The chart illustrates the fact that it is not possible to apply one conversion factor to get from the list-based results to the Downtown Plan EIR results. The comparison process is further compounded because other (non-work) travel assignment is changed in a similar fashion. The distribution of downtown workers by county of residence throughout the region (the residence patterns for downtown workers) was an input to the transportation analysis using both the list-based approach and the Downtown Plan EIR approach. Under the list-based approach where residence patterns are derived directly from the results of the 1982 C-3 District Employee Survey, the percentage of the downtown workforce residing in San Francisco is assumed to remain constant over time. Implicitly, this assumes that, in the future, employment, housing, and the employed population in San Francisco relative to the rest of the region continue to reflect the current pattern. On the other hand, the Downtown Plan EIR forecast approach accounts for changes over time in the relative availability of housing and labor force throughout the region. Under the Downtown Plan EIR forecasts, the percentage of downtown workers residing in San Francisco declines over time. The basic assumption is that employment growth in San Francisco will exceed the growth of the City's employed population and that the growth of the City's employed population will not be proportional to the growth of the labor force residing elsewhere in the region. In other words, in the future, the relative importance to downtown jobs of the region's labor force residing outside of San Francisco will increase. This is consistent with long-term trends. Additionally, while it may appear that the changes between 1984 and 2000 for mode and residence patterns in the Downtown Plan EIR method are the sole reasons for the differences in the two methods' results, in fact, as with the change between the 1980 and 1983 Guidelines (see preceding comment), the 1984 modal split and residence patterns in the Downtown Plan EIR are different from those in the 1983 Guidelines. The 1983 Guidelines present partial results of survey data (i.e. primary office), whereas the Downtown Plan EIR analysis uses composite data that incorporate travel from all land uses in the C-3 District. Thus, a portion of the change shown in the chart is a result of using a more complete data base than is available in the 1983 Guidelines.

In the case of Muni travel, the differences are attributable to the same three causes - differences in total trip generation, residence patterns and modal splits. Comparison of the travel assignment percentage for p.m. peak hour work travel shows Muni travel to the four San Francisco zones as follows:

<u>San Francisco</u>	<u>Muni Travel as a Percentage of Total P.M. Peak Hour Work Travel</u>		
	<u>1983 Guidelines</u>	<u>Downtown Plan EIR</u>	<u>Percent Change between Guidelines and Downtown Plan EIR</u>
Northeast	1.8%	4.6%	156%
Northwest	15.6%	5.9%	-62%
Southwest	12.2%	8.4%	-31%
Southeast	1.8%	4.3%	139%
Total	31.4%	23.2%	-26%

As shown in the chart, although the total Muni assignment differs by 26%, individual changes among the four zones vary as much as 156%. When coupled with the changes in other travel and the fact that the Downtown Plan EIR shows an increase in travel (see Table 2 of the DSEIR) that is 77% greater than the increase generated by the list-based analysis (as a result of the broader mix of land uses and longer time frame), it is not possible to apply a constant conversion factor. Regarding the percent change between the List-based results and the Downtown Plan results in Table 2 of the DSEIR, the range of the changes is from -88% for AC/Transit to 300% for SamTrans.

The distribution of workers by place of residence (the residence patterns for downtown workers) was an input to the transportation analysis using both the list-based approach and the Downtown Plan EIR approach. In the list-based approach, the inherent assumption is that the relative availability of housing throughout the City in the future would reflect current patterns. The residence patterns of downtown workers living in San Francisco using this approach were derived directly from the results of the 1982 C-3 District Employee Survey. On the other hand, the Downtown Plan EIR forecast approach included assumptions about how the relative availability of housing in different City locations would change over time. The residence patterns forecasts for C-3 District workers in the year 2000 which are used in the transportation analysis reflect this different assumption. The basic assumption is that there would be relatively more housing in the eastern parts of the City (near the downtown) in the future as compared to the current overall distribution. The City's Residence Element identifies opportunities for adding substantial numbers of units in mixed-use projects and redevelopment areas in this part of the City. (See Downtown Plan EIR, p. IV.D.60 and note 42.)

The primary differences between the 1983 Guidelines and the Downtown Plan EIR are discussed above. The (preceding) Response discusses the differences between the 1980 Guidelines and the 1983 Guidelines. The requested comparison of project impacts (travel by mode) among the three methods is not valid since under the Downtown Plan EIR method, travel by mode for the project would be assigned using modal splits for the year 2000, whereas under the Guidelines, the project travel would be assigned to modes on the basis of modal splits for the years 1980 and 1983, respectively, as the Guidelines modal splits do not change over time. Additionally, the method described in the comment to be used to define the project share of travel in the year 2000 would not correctly represent the project travel, as the Downtown Plan EIR projects total travel, not just travel from offices.

A comparison of cumulative impacts among the three methods is shown in Staff-initiated Text Changes as new Appendix G.

2. Transit

COMMENT

"Even though page 55 of the report states that the project is expected to generate less than a .3% increase in transit demand in the area during the P.M. Peak, the project would still require the equivalent of an additional 1.36 and 2.56 standard coaches during the P.M. Peak Hour and Period respectively to meet MUNI goals of 1.25 passengers per seat."
(Letter, K. L. Wong)

RESPONSE

Table 1, p. 42 of the DSEIR, shows the project's travel demand by transportation mode. The project's peak-hour and peak-period demand on Muni would be the equivalent of 1.36 and 2.56 standard coaches respectively. However, the project demand would be expected to be distributed over many Muni routes currently serving the downtown, which would allow the project's Muni riders to use available space on existing coaches and on those coaches proposed to be purchased in the future (San Francisco Municipal Railway, Short-Range Transit Plan 1984-1989, June 1984), such that overall loadings would be as shown in Table 3, p. 52 of the DSEIR.

COMMENT

"For future reference, a new MUNI route map has updated the map pictured on page 24 as of June, 1984. Though the new map has only changed slightly from the previous map, changes have been made on the #80X-GATEWAY EXPRESS and #81X-CALTRAIN EXPRESS." (Letter, K. L. Wong)

RESPONSE

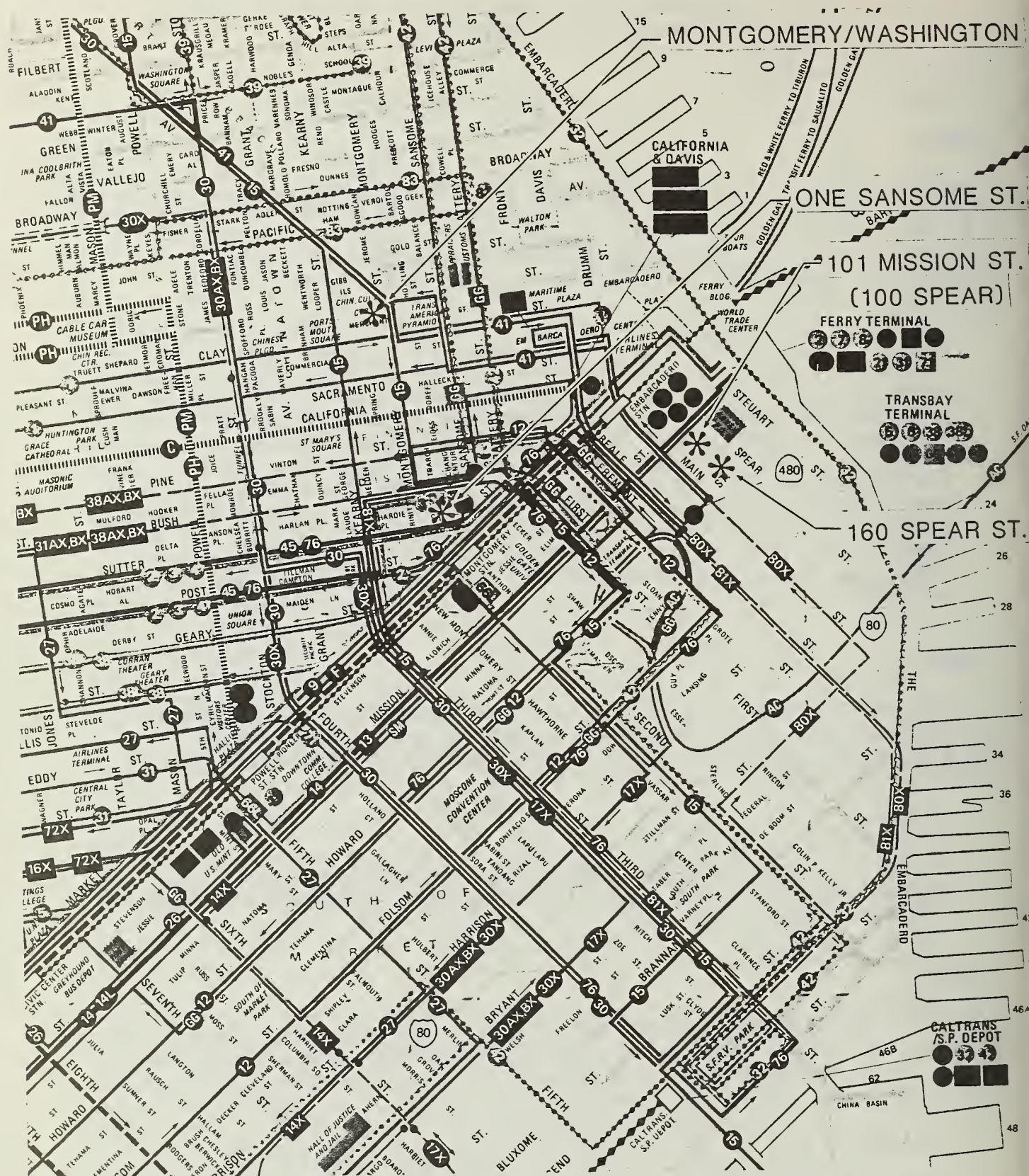
Figure 2, p. 24 of the DSEIR, showing the June 1983 Muni system, is replaced with the revised figure (following page), which shows the June 1984 Muni system.

COMMENT

"MUNI lines #30-STOCKTON and #42-DOWNTOWN LOOP do not serve areas south of the Mission Creek Marina. Because of that fact and contrary to page 53 of the report, these two MUNI lines cannot be said to serve the southeast sections of San Francisco." (Letter, K. L. Wong)

RESPONSE

The Muni routes 30-Stockton and 42-Downtown Loop have been included as serving the Southeast corridor of San Francisco because the northern boundary of the Southeast corridor is approximately at Folsom St. (the southern boundary of the C-3 District). Figure IV.E.2 of the Downtown Plan EIR has been revised to correctly represent the boundaries used in



NO SCALE 

SOURCE: SAN FRANCISCO MUNICIPAL RAILWAY
STREET AND TRANSIT MAP, JUNE, 1984

FIGURE 2
MUNI ROUTES IN THE
PROJECT VICINITY

the transportation analysis. As noted in the Transportation Analysis for the Downtown Plan EIR, Supplemental Material (ESA, October 17, 1984, part of the background material for the Downtown Plan EIR file, EE 81.3), the Muni travel demand assigned to the Southeast corridor includes 65% of the SPRR/CalTrain travel (percentage determined from Muni statistics reported in the 1983-88 Short-Range Transit Plan) which uses the Muni system, especially the 30-Stockton, to reach the SPRR/CalTrain terminal at Fourth and Townsend Sts. Neither the 30-Stockton nor the 42-Downtown Loop was represented as serving the area south of Mission Creek in the calculations in either this Supplemental EIR or in the Downtown Plan EIR.

COMMENT

I still think it's an error to leave out tables that we used to have that showed clearly this city's uncomfortable Muni overcrowding. The pictures are in there, I know, but those are three years old. I think that we should have the tables that used to be in there about the different lines." (Transcript, Commissioner Bierman)

RESPONSE

As noted on p. C&R-E.36 of the Summary of Comments and Responses on the Downtown Plan EIR:

"The EIR uses the corridor-based analysis because it is not possible to predict accurately which individual transit lines future riders would use, only which corridor they would use. Additionally, it can be assumed that if a rider desired to take one line that was operating at or above capacity, he/she might switch to another line, within the same corridor, that was operating below capacity. Therefore, the corridor-based analysis gives a more accurate prediction of overall Muni operations than would a line-by-line analysis. As described on p. IV.E.9 of the [Downtown Plan] EIR, aggregation of line-by-line data may slightly distort overall ridership conditions."

Regarding the appropriateness of the photographs of loading conditions on Muni, p. 25 of the Response to Comments for the Stockton/O'Farrell Mixed Use Development EIR (certified October 25, 1984 by the San Francisco City Planning Commission) states:

"Peter Strauss, Director of Muni Planning, reviewed the photos of Muni loading conditions in March 1983 as part of the review of the 222 Kearny St. EIR and stated that the photos are representative of current conditions. The photos are intended to be a general, qualitative illustration of crowded conditions on bus and streetcar lines. They are not a quantitative representation of a specific volume/capacity [passenger-per-seat] ratio or Level of Service and therefore additional or updated photos would not provide additional information."

COMMENT

"Back to the main part of the EIR. Page [7], paragraph 3, accepting the method we are using, which I question, but which we are using, this paragraph

is a pretty good example of what I have been talking about in recent EIR's in terms of transportation. Muni and the northwest corridor will be worse, according to all of our most recent EIR's. The conditions on those will worsen. But because we only have a designation of F as the worst in this paragraph on page [7], nothing shows up about the northwest corridor problem. It shows, and I think that I have been correct, that we need designation beyond F, whether it will be other letters or probably double F or triple F, to show changes as they occur. If we had different designation, that would be listed as a change, and it is not." (Transcript, Commissioner Bierman)

RESPONSE

As noted in Table 3, p. 52 of the DSEIR, the operating conditions (as expressed in passengers per seat) on Muni routes to the four San Francisco zones are projected to improve between 1984 and 2000 during both the peak hour and the peak period. Although the passengers-per-seat (p/s) ratios change for the better (i.e. become smaller) between 1984 and 2000, the Level of Service for some zones does not change, because the reduction in p/s ratios is not sufficient to move the Level of Service rating into another range. Because the Level of Service ratings each have a range of p/s ratio values, the p/s ratios are presented in combination with the Level of Service ratings, to provide definition of the change in conditions within a single Level of Service rating.

Unlike the Level of Service scale for vehicular traffic, the bus transit Level of Service scale has a range of values (listed in Table C-1, p. A-16 of the DSEIR, as 1.51 to 1.60 passengers per seat), beyond which loadings are seldom likely to occur (individual bus transit vehicles, depending upon seating configuration, may have feasible loadings as high as 1.90 p/s in rare instances). Thus, in most cases, p/s ratios exceeding 1.60 are describing excess demand not likely to be accommodated on the transit system, and should be described as such. The analysis results summarized in Table 3 of the DSEIR do not show any loadings in excess of 1.60 p/s and thus the designation of new sub-categories of the F Level of Service would not add any information to Table 3.

COMMENT

"On the transportation problem, you are worried about the BART system and bus systems being overcrowded. A potential alternative to that would be personnel carriers coming in from the suburbs, and one or two people could go in a car, and you wouldn't have to drive." (Transcript, John Wotzka)

RESPONSE

Although not defined completely in the comment, the suggestion appears to be for a "people-mover" or "personal rapid transit (PRT)" system as an alternative to transit overcrowding. Such systems are usually characterized by automated, relatively-low-capacity (fewer-than-10-person) vehicles that travel on fixed guideways (the system in Morgantown, West Virginia is typical). Most existing PRT systems serve small areas (like airports) where the system design can be matched to origin-destination patterns. The financial feasibility of a PRT system in the Bay Bridge corridor would be questionable in that to be affective, the PRT system would have to serve the western portions of Alameda and Contra Costa Counties, which would mandate a physical plant of enormous proportions and costs.

COMMENT

"You read this on transit. The big issue for five years, four years -- how much does it cost? Will it be implemented? Not even a summary table, a graphic that says: Here's what's planned, here's the funding source. We have some confidence it will really happen.

"I really think, after all the transit stuff, we should do that."

"I was a little disappointed in the Downtown Plan when I gave testimony last October with -- taking everything in the Downtown Plan, Muni corridor, Geary corridor, and everything, and saying it costs 3.3 billion, the Planning Department in that testimony said, 'We will give you back better information; we will refute that. Believe me, when the Downtown Plan comes out, there will be summaries that show the numbers are different.'

"Downtown Plan comes out, either Downtown Plan EIR, this EIR comes out. I cannot, as a citizen, have any confidence it's going to happen, because I get referred to five-year plans which I have read, and I know five-year plans are wish lists. They are what the transit agency hopes to get under the best funded assumptions at the Federal and State level."

"In my comments on this EIR and the Downtown Plan EIR, I have some tables. And I sort of say, 'Gee, it would be nice to have this type of table.' And I would appreciate that." (Transcript, David Jones)

RESPONSE

As stated on p. C&R-E.31 of Volume III, Part 2, Summary of Comments and Responses, Downtown Plan EIR, regarding the appropriateness of the use of Five-year Plan information:

"The Five-Year Plans are federally-mandated annually-updated operational planning documents that are not merely "wish lists" but are reasonable and useful analyses of funding sources, capital improvements, vehicle acquisitions, and route and schedule modifications. Plans developed at the inception of the Five-Year Plan process were more global and policy oriented than are the more recent versions of the Plans which are more operational in nature. Comparison of the Plans for the 1981-1986 cycle with those for the present cycle shows that the short-term goals expressed in the Five-Year Plans have been reasonably attained by the transit carriers. The recent funding of several capital intensive transit projects (the BART turn-back for one) serves to reinforce this validity of the Five-Year Plan process. Thus, it was appropriate that the EIR analysis used the Five-Year Plans as a basis for projections of future transit capacity."

Regarding the cost of the transit improvements, the Downtown Plan EIR states on p. C&R-E.34:

"An independent financial analysis prepared for the S.F. Chamber of Commerce [An Analysis: The Financial Feasibility of Public Transit Recommendations in the Downtown Plan, A. Lee Knight, February 1984] estimated that all together, \$2.9 billion would be necessary in order to support and maintain the E & C transit system for the next sixteen years. In order to expand beyond the existing regional transit

system, total capital revenues would need to exceed that figure. The MTC "New Rail Starts" Program examined the financial feasibility of "surplus" capital resources being available for significant system capacity expansion. Based on projected regional capital revenues, a range of \$4.6-7.1 billion would be available for both the E & C and "New Rail Starts" programs by the end of the century. After subtracting the E & C financial requirements, there would be sufficient (\$1.7 - 4.2 billion) remaining revenue to fund most, if not all, of the region's "New Rail Starts" program (estimated to be \$1.7 billion). On this basis, the EIR transportation analysis appears prudent (if not cautious) in assuming the level of transit that it did, which was none of the projects beyond what is anticipated in the E & C system."

With regard to the tables submitted on the Downtown Plan EIR, the Summary of Comments and Responses states on p. C&R-Z.1:

"Because the purpose of an EIR is to provide information and analysis regarding the environmental impacts of a proposed project, issues related to other projects or to non-environmental concerns such as quality of life, economics or social information or services need not be included in an EIR....As such, comments on other projects or on non-environmental concerns are not responded to in this EIR, nor are comments which raise policy issues for decision-makers to resolve."

3. Traffic

COMMENT

"Because of the high likelihood that auto traffic from the project site would utilize the freeway entrance located at Mission and Beale during the P.M. Peak, an intersection level of service (LOS) analysis should be included in the report as the additional traffic generated by the project could hamper MUNI operations on both Mission and Beale Streets during the peak periods." (Letter, K. L. Wong)

"While it may be true that some trips will utilize the freeway entrance at Battery and Clay, only a small number, in our opinion, would use the aforementioned entrance during the P.M. Peak because of is located relatively far away from both the project site and nearby commuter parking lots. As a result, auto traffic generated from the project will further congest the freeway entrance on Mission and Beale which could adversely impact MUNI operations on both Mission and Beale Streets during the P.M. Peak." (Letter, K. L. Wong)

"Page 64 of the report states that "Impacts from the project on other streets would be less, because projects on them would be more dispersed. Routes of drivers going to garages were assumed to be sufficiently dispersed so that they would have no measurable effect on traffic volumes on the streets adjacent to the project." However, realistically, the commuter parking lots serving both the project site and nearby buildings are rather limited to those located in a small area between Mission to Harrison and The Embarcadero to Fremont due to both parking availability and the relatively short distance from the lots to nearby buildings. Because of existing volumes on both Mission and Beale Streets, we feel that impacts on at least those streets for both the A.M. and P.M. Peak Hours and Periods should be evaluated." (Letter, K. L. Wong)

RESPONSE

Table 6, p. 65 of the DSEIR shows existing and projected operating conditions at the intersections of Clay and Battery Sts., Mission and Beale Sts., and First and Harrison Sts. The future conditions are projected on the bases of two methodologies, the Downtown Plan EIR method and the Cumulative List method.

In the case of the former, the future projections are made on the basis of growth factors developed in the Downtown Plan EIR analysis, which take into account changes in land use intensity across the downtown and are sensitive to travel routes and overall parking location. The cumulative list analysis projects future conditions on the basis of summation of traffic assignments from individual projects over the entire list. In both cases, the traffic from an individual project would comprise varying percentages of the future traffic at the three locations. Traffic from the project has not been assumed to distribute uniformly over the three intersections. Rather, the project traffic has been assumed to use the intersections in a manner proportionate to proximity to the intersections. Thus, the project traffic volume would be a larger component of traffic using the intersections of Mission and Beale Sts. and First and Harrison Sts. than at the intersection of Clay and Battery Sts. The following is added to the text on p. 64 at the end of the first sentence of the third paragraph:

"The traffic from the project would be expected to use the intersections of Mission and Beale Sts. and at First and Harrison Sts. in preference to the intersection at Clay and Battery Sts."

As noted above, the intersection of Mission and Beale Sts. has been analyzed for the p.m. peak hour. The analysis of intersection operations in the Downtown Plan EIR (incorporated by reference into the DSEIR) shows, in Figure IV.E.3, p. IV.E.38, the effects of peak-period congestion associated with several intersections in the downtown; the Mission and Beale St. intersection is included in that analysis. The effects of traffic congestion on transit operations are discussed on pp. IV.E.15, 33 and 34 of the Downtown Plan EIR and on pp. 64-65 of the DSEIR. Analysis of the a.m. volumes on Mission and Beale Sts. shows that while Mission St. volumes are equivalent between the a.m. and p.m. peak hours, the volumes on Beale St. in the a.m. peak hour are about 70% of the p.m. peak-hour volumes. Thus, the p.m. conditions in this location are more severe than the a.m. conditions and have thus been analyzed as worst-case in the DSEIR.

COMMENT

"P. [62], Table 5 - There appears to be an inconsistency in Table 5 - Outbound Regional Auto Demand. For both the 1984 volumes and the year 2,000 demand volumes, some of the 2 hour peak volumes are greater than twice the one-hour volumes." (Letter, Mara Melandry)

RESPONSE

As stated on p. IV.E.14 of the Downtown Plan EIR (which was incorporated by reference into the DSEIR):

"Peak-period volumes on the Bay Bridge and the Golden Gate Bridge are more than twice the peak-hour volumes. This anomaly most likely is the result of the effects of temporary flow interruptions during high demand periods. As explained above, the ability of vehicles to enter the Bay Bridge is affected by operating conditions on the Bridge. The Golden Gate Bridge operates under similar conditions but is also affected by congestion on the surface streets that form the approaches to the Bridge (Lombard Street, Doyle Drive). During the higher demand periods (i.e., the peak hour), temporary flow interruptions have a substantially greater effect on the total volume of traffic crossing the bridges. The peak-period flows tend to be more uniform both because of a declining demand on the shoulders of the peak and because of the spreading over time of the peak hour (caused by congestion on the bridges). The net effect of the above factors is that the peak hour may occur slightly earlier or later than 4:30 p.m. to 5:30 p.m. on a particular facility; peak outbound demand from the C-3 District is concentrated in that hour."

COMMENT

"Page [8], paragraph 3. This paragraph tells the story of why I think we need to do more with our Downtown Plan than we are planning, more controls than we are planning to do. It spells out level of service at Battery and Clay, goes from C to D. At Mission and Beale from E to F. And it aggravates the jammed conditions at First and Harrison, which I presume means worse than F, and we don't have a designation for it.

"This latter sentence, 'jammed conditions at First and Harrison,' again shows the need for another designation -- double, triple, or whatever, F -- which could be calculated, I am sure.

"Whatever the differences are between A to B and B level to C and C to D, D to E, E to F, then wherever you leave off at F and it gets worse, you should have either a new letter or double the impact. I don't think it's fair to just suddenly stop and say that this is bad as it will get, because your figures must be showing a difference with more and more figures coming in. I think it is copping out to let it stop at F, because it doesn't show any progression of worse cases developing." (Transcript, Commissioner Bierman)

RESPONSE

The Level of Service concept for vehicular traffic, whether for freeways, rural roads, suburban and urban arterials, or signalized and unsignalized intersections, is an internationally recognized method used by transportation professionals to categorize vehicular traffic operations. The concept of Level of Service (LOS) was applied first to free-flow operation of highways. Levels of Service A to E for highways describe conditions of flow past a point, with LOS E describing the maximum possible flow past a point. Empirical relationships were developed among traffic speed, volume, and flow that are valid for the LOS A to E range. The empirical relationships do not apply to conditions of jammed flow since under jammed conditions flow past a point is sporadic. LOS F was the designation given to this non-flow, jammed condition. When the Level of Service scale was developed for intersection operations, the concepts regarding capacity were maintained in that LOS A to E represent flow

through an intersection (although under LOS E, queues would be present on the intersection approaches during a signal phase) and that LOS F describes a jammed condition of non-flow (i.e., flow through the intersection is blocked by a queue from a downstream intersection). Subdivision of LOS F to allow better definition of jammed conditions is not possible since there are no quantitative relationships among volume-to-capacity (v/c) ratios, the length of time an intersection would remain jammed, and queue lengths resulting from jammed conditions.

Additionally, because of the numerous parallel routes available in a grid street system such as San Francisco's, and because motorists attempt to avoid congestion points by seeking alternate routes, a projected v/c ratio in excess of 1.00 may not be realized, as only a portion of the motorists attempting to use a given intersection would elect to queue on a jammed approach and thus add to an LOS F condition. Because of the limitations inherent in subdividing LOS F, no attempt has been made to modify the LOS scale; rather, v/c ratios are presented in combination with LOS ratings in Table 6 (p. 65 of the DSEIR), to allow definition of change in conditions within a single LOS rating (e.g., the v/c ratio at First and Harrison Sts. shows a change from 1.11 in 1984 to 1.34 in 2000, from which a comparison of relative effect can be judged).

COMMENT

"In this, there is stated pretty clearly, I think, that in the future, the freeway problem will be solved because people will be ridesharing and they will be on transit and they won't drive, thus eliminating any need for new roads. I think that that really sells short people who are living out in the region who finally get so fed up that they decide that they're going to fight for freeways, additional freeways. I don't think there is any way these EIR's can conclude there won't be that fight." (Transcript, Commissioner Bierman)

RESPONSE

The transportation analysis in the DSEIR is not an attempt to solve the "freeway problem." Rather, it is an analysis of how existing patterns and trends in increased ridesharing and transit use by travellers to downtown San Francisco may influence future travel patterns. The issue of additional freeway construction (and public pressure for it) is independent of the analysis in a project-specific EIR, as the analysis in the DSEIR projects demand for future freeway travel on four facilities serving San Francisco. New freeway construction in California is largely a function of CalTrans' projections for the twenty-year planning horizon for the region and of the availability of federal monies and matching State funds, with actual demand and public pressure more likely to affect the timing of freeway projects in CalTrans' plans than the nature of those projects.

4. Downtown Plan EIR Transportation Comments

COMMENT

The letter submitted by David Jones contained additional comments on transportation (than those listed above) that were identical to the comments Mr. Jones submitted on the Downtown Plan EIR.

RESPONSE

The responses to those comments that are identical to those submitted for the Downtown Plan EIR may be found in Section E, Volume III, Part 2, of the Summary of Comments and Responses, Downtown Plan EIR. In particular, see Sections E.1.2 and E.1.5 which contain discussion of the transportation model results with respect to 1984 observed conditions and discussion of Non-C-3 travel demand and the process used to forecast non-C-3 demand for the future analysis years.

COMMENT

David Jones and Carl Imparato attached full copies of their comments on the Downtown Plan EIR to their comments on this Supplemental EIR.

RESPONSE

Mr. Imparato's comments on the Downtown Plan EIR are on pp. 225-281 of Volume III, Part 1, Summary of Comments and Responses, Downtown Plan EIR, and Mr. Jones' comments are on pp. 282-305 of that document. Each of the Comments is cross-referenced to the appropriate section in Volume III, Part 2 of that document.

G. AIR QUALITY

COMMENT

"With regard to air quality, one of the glitches in the One Sansome Draft EIR process was that a letter got lost. And I am incorporating by reference, and the staff knows the letter I am talking about, the Bay Area Air Quality Management District's letter that they submitted in the One Sansome Draft EIR process.

"There is a section at the end of the first page that goes over, I believe, one sentence on the second page, that raises questions about cumulative air quality and whether it is the best solution to the region's air quality problems to site continued office development in San Francisco because of the amount of miles that are being traveled. And that issue is reflected in this supplement and all of these four supplements because you talk about: How can you mitigate air quality impacts by reducing the number of miles traveled?

"You need hard information on where people are looking for housing to work downtown. When they're looking in Solano County, when they are looking in the far reaches of Alameda and Contra Costa County, when they are starting to commute from Sonoma County, it changes the number of miles traveled and it changes the regional impacts on air quality as well as on transportation and housing." (Sue Hestor, Transcript)

RESPONSE

The Bay Area Air Quality Management District letter referred to by Ms. Hestor offered general points on cumulative air quality analysis in San Francisco. The letter included mention of the air quality section of the Sedway-Cooke Phase I Study of Downtown (Downtown San Francisco Conservation and Development Planning Project, Phase I Study). The Sedway-Cooke Report was prepared in 1979 and used a broad, general technique for estimating air pollutant increases that might result from future downtown growth. Since that report was published, methodologies used in EIRs to measure carbon monoxide (CO) emissions have become more sophisticated, and the analysis of cumulative air quality impacts has improved.

In 1980, after the Sedway-Cooke report was published, hotspot monitoring for CO levels was conducted by the District in several locations throughout the Bay Area, including San Francisco. The hotspot study showed that the areas of concern for CO concentrations are Oakland, Vallejo, and San Jose, not San Francisco.

The Bay Area Air Quality Management Plan (BAAQMP) was adopted and amended after the Sedway-Cooke report was completed. The recently adopted 1982 amendments to the BAAQMP indicate that by 1987 San Francisco is not anticipated to show any violations of air pollutant standards at either monitoring station.

Regional air quality impacts of cumulative development in San Francisco are largely the result of motor vehicle travel generated by this cumulative development. Since much motor vehicle travel is devoted to

home-to-work trips, the location of office development in the Bay Area can influence the overall amount of vehicle miles traveled (VMT) and therefore pollutant emissions. Location of office development outside San Francisco could, but would not necessarily, result in less air pollution, depending on the particular locations selected. Nevertheless, since the impacts of cumulative development in San Francisco on regional air quality are not predicted to produce significant changes in pollutant concentrations, the benefit of alternative locations for development would not be major.

Other methods to reduce vehicle miles traveled are generally those which encourage increased use of mass transit and high occupancy vehicles. These methods would reduce pollutant emissions provided that new mass transit use is the result of people switching modes of travel from private automobile to mass transit. Because the Bay Area's most significant regional air pollution problem, elevated concentrations of ozone, results from emissions distributed over a wide area, it is unlikely that increased mass transit usage in a single transit corridor would produce a large enough reduction in vehicle travel to cause a significant reduction in regional ozone concentrations. The most effective control measures for regional air pollution problems due to motor vehicle emissions are those which apply throughout the region such as state and federal emissions control requirements and motor vehicle inspection and maintenance. These programs are regional in nature and are substantially beyond the control of any single city or county. Recommended air quality and traffic mitigation measures for development in San Francisco give priority to the control strategies recommended in the Bay Area Air Quality Plan. Since this Plan is designed to achieve regional air quality goals by 1987, San Francisco's consistency with the Plan is the appropriate level of mitigation to be maintained with regard to regional air quality goals.

COMMENT

"Page 15, No. 2 [of the One Sansome DSEIR; page 12, no. 2 of the 101 Mission EIR]. It's under 'Mitigation Measures.' Air quality. 'Measures that would reduce transportation impacts by reducing the number of vehicle miles traveled would reduce cumulative air quality effects.' I don't know what in the world that means. Presumably it means that if we built less, but if that is what it means, it ought to say that. Maybe it means more people will rideshare. Say that. But I just find it kind of an empty statement." (Commissioner Sue Bierman, Transcript)

"Substantive air pollution mitigation measures should be required. The cost of removal of the additional amounts of pollutants generated by cumulative development is one standard for the fair amount to charge to developers to mitigate these impacts caused by their projects." (Carl Imperato, letter of August 23, 1984.)

RESPONSE

Any action which reduces the amount of motor vehicle traffic produces a concomitant reduction in pollutant emissions. Increased use of public transit and ridesharing are potential mitigation measures because they reduce the number of individual vehicles involved in commute traffic. Locating development near transit or near housing may result in reductions

in motor vehicle travel if commute travel can be accommodated on transit. It is noteworthy however, that the regional nature of ozone problems tends to limit the effectiveness of programs that impact on only small areas or transit corridors within the region.

Air pollution is controlled by reducing emissions. Since the major air pollution impacts of cumulative development are due to motor vehicle traffic, appropriate mitigation measures are those which reduce the number and length of vehicular trips or permanently improve the quality of flow of traffic. Included in Resolution #9123 are a number of measures designed to achieve these goals, including imposition of the Transit Development Impact Fee, transportation brokerage and further study of the characteristics of the transportation and parking network in downtown San Francisco.

COMMENT

"Page 31 and 32 [of the One Sansome DSEIR; pages 26 and 27 of the 101 Mission DSEIR] has a little bit of discussion about hotspot monitoring and differences when we do hotspot monitoring, particularly on Harrison Street, that, yes, there have been more, what do you call it, where the standard is violated. Those hotspot studies were done in '80 and '81. Since, particularly in the Harrison Street area, we are making housing an important part of that area, zoning for it, I think it's irresponsible of us not doing up-to-date monitoring in the area. I don't think we have any way of knowing what it is we are putting people in for in terms of maybe never getting to open their windows, nobody being comfortable out playing. I mean, if we just keep allowing the traffic to get worse and we are saying we need housing there, maybe the two things really cannot work together." (Commissioner Sue Bierman, Transcript)

RESPONSE

The hotspot measurements done in 1980-81 were designed to monitor locations which were thought to have particularly high concentrations of CO. Results obtained using the mathematical model to calculate CO values were compared to actual measurements at hotspot monitoring locations to check the model; the model was found to produce "conservative" results, that is, it predicted values which were somewhat higher than actual measurements. The model was reviewed by the BAAQMD and found to be adequate.¹ Nonetheless, since monitoring data is always useful in quantifying specific localized concentrations under current conditions, the BAAQMD staff have expressed interest in conducting further monitoring studies in San Francisco which could be used for additional model validation. Such studies would be conducted during winter months, in winter of 85-86 or later, according to current BAAQMD plans².

¹Thomas Perardi, Research & Planning Manager, BAAQMD, verbal communication, August 2, 1984.

²Thomas Perardi, Research & Planning Manager BAAQMD, verbal communication, October 29, 1984.

COMMENT

"The method used in the air quality analysis in each of these Supplemental EIRs is based, to a large extent, on the Downtown Plan EIR. We sent you our comments on that document on May 29, 1984 and have recently met with your staff and consultants on the matter.

"Several methodological issues remain unsolved which are of importance to air quality calculations. These concerns apply to the Downtown Plan EIR and, therefore, to the four supplemental project EIRs as well. The problems arise in connection with estimates of future background levels of CO throughout the downtown area and local levels of CO at congested intersections. For both base year and future years, certain variables need further analysis. Among these are: (1) average vehicle speed, (2) queuing lengths, (3) number of queues, and (4) duration of peak traffic conditions.

"In the discussion with your staff and consultants, the decision was made to revise estimates of future motor vehicle emissions and CO background levels in and around the downtown as congestion increases in future years. Local intersection emissions and resulting estimated CO levels should include a more realistic analysis of congested intersections.

"Answers to questions on expected exceedences of standards and the adequacy of mitigation measures depend on the results of such modified analyses." (Milton Feldstein, letter of August 15, 1984).

RESPONSE

The Carbon Monoxide air quality model used to predict worst-case curbside CO concentrations in the four supplemental EIR's has been revised in accordance with the BAAQMD comments. The revised model analyzes worst-case impacts for local CO emissions by assuming average free flow vehicle speeds for 1984 of 22 mph and 25 mph, and average acceleration-deceleration vehicle speeds of 11 mph and 12.5 mph for a distance of about 172 feet, during the peak hour and peak eight-hour period, respectively.

The background CO analysis is based on traffic, and varies by volume and speed. For the eight-hour peak period for the Downtown Plan and the Alternatives, an 18-mph average vehicle speed was assumed for 1984, 17-mph for 1990, and 16-mph for 2000. For the one-hour peak a 15-mph vehicle speed was assumed for 1984, 14 mph for 1990, and 13 mph for 1984.

An upper limit of seven vehicles per traffic lane was placed on the length of the queue at each approach of the intersection. Vehicles more than seven car-lengths from an intersection were determined not to affect the local CO component, only the background.

Estimates of existing and future peak hour and peak 8-hour traffic volumes were obtained from the traffic analysis and used in the air quality model.

The model used in the four supplemental EIR's is identical to that used in the Downtown Plan EIR. Further details about its construction and operation can be found in the Downtown Plan EIR.¹

Table 8 of the 4 supplemental EIR's has been replaced by the following:

¹The Downtown Plan EIR, page IV.I.8. The Air Quality Analysis in the Downtown Plan Draft EIR was revised as summarized above; the revised material appears in the Downtown Plan EIR, Volume 3, Summary of Comments and Responses, Section I, pages C&R-I.3-10, which are hereby incorporated by reference and summarized above.

TABLE 8: PROJECTED WORST-CASE CURBSIDE CARBON MONOXIDE CONCENTRATIONS

Intersection	Averaging Time	Concentrations (ppm) ¹			
		1984	Cumulative List 1990 ²	Downtown ³ Plan	
				1990	2000
Mission/Beale	1 hour	13.4	10.3	10.1	8.6
	8-hour	9.8	7.9	7.5	7.0
Clay/Battery	1-hour	13.0	10.1	10.0	9.2
	8-hour	10.3	8.1	7.9	7.1
First/Harrison	1-hour	10.9	8.7	8.5	8.1
	8-hour	8.4	6.6	6.5	6.1

/1/ Calculations for all four scenarios were made for worst-case (poor dispersion) meteorology, using the modified linear rollback method. Background concentrations were calculated to be 7.4 ppm for one hour and 5.7 ppm for eight hours in 1984, 6.0 ppm for one hour and 4.5 ppm for eight hours in 1990 and 5.7 ppm for one hour and 4.1 ppm for eight hours in 2000. No excesses of ambient standards are projected to occur in 1990 or 2000. The one-hour state standard is 20 ppm, the one-hour federal standard is 35 ppm, and the eight-hour state and federal standard is 9 ppm.

/2/ Based on list of projected Cumulative Office Development in Downtown San Francisco as of March 10, 1984.

/3/ Based on growth projection methodology contained in Downtown Plan EIR, Table IV.I.3, page IV.I.16, as revised in the Summary of Comments and Responses, Section I, particularly pp. C&R-I.3-8.

Source: EIP Corporation and Environmental Science Associates

H. RESIDENCE PATTERNS AND HOUSING

COMMENTS

"The use of 'boilerplate' sections on housing issues is distressing to us since it has long been known that housing issues were of prime importance when considering these projects in their individual EIR's. While it will no doubt be argued by staff that the cumulative effect and impacts of these four buildings will be the same, it seems to us that the issue is of such importance that a separate and distinct discussion should have occurred on a building by building basis. This is especially true in that two of these projects made specific housing commitments to the City, with specific unit requirements (101 Mission for 180 units and One Sansome for 512 units, 405 of which were to be low/moderate income affordable). No discussion occurred as to the progress of these commitments or if the other two projects had even offered to live up to their OHPP generalized commitments. Clearly, the Impacts section should have differed given the differing commitments made.

"We would also like to suggest a way to remedy this poor data and too general discussion of housing impacts. Time and again we are told in these documents that estimating their specific impacts would be too difficult. But we have a special situation with these four projects. They are in various stages of completion. Data on the housing aspect of the workforce is there to be collected in those projects which are operating. Why not simply require your staff to survey these projects and ask the workforce where they live, where they lived before, how many rooms they live in, what their household size is, etc. We have our own data base for these projects that is 100% accurate if we only ask.

"For example, we are told in typically super generalized fashion that: 'consumers priced out of higher priced neighborhoods are often attracted to other areas...as this occurs...there are changes in the types and incomes of the households living in the neighborhood.... This phenomenon (often called 'gentrification') has occurred in areas of San Francisco' [101 Mission], DSEIR, p. [40]. A survey of the projects already completed would give us a hard data base to put flesh on this key problem. We could learn just what neighborhoods are affected by these four projects. That would be useful, hard, current, information which would add to these documents. CCHO stands ready to assist your staff in these questionnaires. We have member organizations with experienced staff who have made housing surveys in the past. We would be more than happy to assist in answering these key questions. With such current and factual data these four Supplements would go far in seeking answers to housing questions which would assist in making the Commission's decisions about them informed and meaningful." (Calvin Welch, letter of 8/23/84)

"Because of litigation, we are doing environmental evaluation of projects that have basically been approved and are underway, and at least a couple of them are inhabited with workforce. Why don't you direct your staff to survey that workforce to find the answer to some of these very important general questions raised in the impact section, for example, whose utility is marred by its excessive generality and reliance upon out-dated data?

"We have four buildings that will have workforces that we can ask. We can survey that workforce and not have to rely upon projections, assumptions, and estimates from transportation studies and various other kinds of Rube Goldberg constructions to make some sort of statement about housing impacts." (Calvin Welch, Transcript)

"...How many employees are there in each of the buildings? Does it match our normal 250 square feet per employee rate? What is the employee income level in these buildings? And where do they live? Where do these employees live?

"Also tell us: Is the tenant in that building a new person to San Francisco, or is it a relocation? If it's a relocation, where did they come from? Is it a new company, period? Or if it's a relocation, where did they relocate from? What happened to the space that they came from. Is it on the market?

"Do the same for the retail uses. Now, none of these buildings have a particularly great amount of retail space. I think Montgomery/Washington has the most. Tell us about their retail tenants. What happened to the old? Who are they new? What is the size of space? What is the rent the old ones were paying versus the new ones are paying?" (Sue Hestor, Transcript)

RESPONSE

The comments indicate that there is confusion regarding the cumulative perspective for impact analysis, particularly for housing impacts. The following introductory subsection explains the cumulative perspective which is central to the analysis in these Supplemental EIRs.

Clarification of Cumulative Perspective

When a new office building is built, office space in San Francisco increases and accommodates new firms or the growth of firms already located in the City. The new or enlarged businesses, however, do not necessarily end up in the new building. Instead, existing businesses often move from other downtown locations to the new space, and tenants change in a number of buildings. The additional jobs (jobs that would otherwise not be downtown) will be in new or expanded businesses, but these businesses will be distributed throughout downtown.

For example, Citicorp is one of the businesses located in the new Citicorp Center at One Sansome (one of the projects assessed in these Supplemental EIRs). Citicorp moved from its former location at 44 Montgomery Street. In turn, Amfac moved its corporate headquarters into the space vacated by Citicorp. To its new quarters, Amfac has moved the staff from its former corporate offices in the top floors of the Liberty House department store at Stockton and O'Farrell, as well as its corporate services staff from Burlingame. The vacated office space in the Liberty House building will be occupied by Macy's which will consolidate employees scattered throughout four buildings in San

Francisco. (San Francisco Chronicle, "Another Amfac Move - Five Blocks Away", October 18, 1984). This example demonstrates that the additional employment accommodated in downtown San Francisco by the development of the One Sansome project is not located in the newly constructed building but is partly located in 44 Montgomery (the Amfac jobs transferred from Burlingame) and partly in other space throughout the City (in the four buildings vacated by Macy's employees or in other buildings vacated by those San Francisco businesses that moved into the space vacated by Macy's). To the extent that Citicorp's space in the new building includes some room for expansion, some of the additional employment will eventually be accommodated in the new building.

This dynamic pattern has implications for housing impact analysis. The characteristics of the businesses and of the jobs located in the new building are not relevant from a cumulative perspective. Moreover, the characteristics of the individuals working in the new building are also not relevant.

Instead, the cumulative analysis for these Supplemental EIRs (represented by the housing and transportation impact analysis and also in the discussion of employment impacts in Section I of these responses to comments) focuses on the characteristics of overall downtown growth, not on the characteristics of each individual new project. The purpose of the cumulative impact analysis is to identify the combined impacts due to all growth. New buildings themselves are not particularly relevant because the growth is not necessarily in the new buildings, as described above. Because it is impossible to specifically identify the additional jobs due to growth or the additional workers, the cumulative analysis is based on conclusions from downtown-wide analysis and data-collection, including surveys.

The downtown-wide analysis identifies the characteristics of those business activities that are growing and the characteristics of employees in those types of businesses. The overall average characteristics of total business activity downtown and of the downtown workforce change over time because of growth. In completing the cumulative analysis of housing or transportation impacts of growth and in relating a project to the overall change, the net addition of office space contributed by the project is treated as one increment of growth over a longer time period (in these cases, either through the year 2000 or through build-out of the list of downtown office projects). This increment of growth is assumed to have the average characteristics of the total group, not any project-specific characteristics. The only specific information about the project that matters is the amount of space in the building. The amount of space identifies how large the increment of growth is. The downtown-wide analysis provides the rest of the data and characteristics necessary for considering the growth represented by the project in the cumulative context.

The Use of Area-Wide Data for Cumulative Impact Analysis

In these Supplemental EIRs, area-wide characteristics are used in both the list-based approach and the Downtown Plan forecast approach. The list-based approach is a relatively simple version of the cumulative analysis described above, while the Downtown Plan approach adds the complexities of changes over time in characteristics and behavior.

In the list-based approach, data from the Downtown EIR Employer/Employee Survey in the C-3 District and the South of Market/Folsom Employer/Employee Survey provide the basis for establishing current average characteristics for different land uses (employment density, residence patterns of employees, mode of transportation to work, etc.). The list itself provides the estimate of the amount of future growth. In this approach the characteristics and behavior of different land uses and employees are held constant, over time.

The Downtown Plan approach is more complex. Complexity is introduced through consideration of changes over time in the characteristics and behavior of different groups (of land uses and business activities). The likelihood of such changes is established by analyzing survey data relative to published data and forecasts for relevant population, housing, and employment totals. Demographic changes and other behavioral changes evident in trends from historic data are also considered. In this approach to cumulative analysis, area-wide characteristics are used, but the characteristics are different in the future for all activity and employment, including growth.

The Supplemental EIRs Describe the Impacts of the Same Cumulative Contexts

The commenter questions the use of "boilerplate" discussions of housing impacts, implying that the discussions should be different in each Supplemental EIR. The discussions are the same, with the exception of the project information presented. There is a clear rationale for what appears to be "boilerplate" treatment.

The purpose of these Supplemental EIRs is to identify the impacts of cumulative downtown development (to which the subject projects contribute). It is not to identify different project impacts or the cumulative impacts of only these four projects. The cumulative context includes these four projects plus additional development. The cumulative context is also the same for each project; each project is put in the context of the same amounts of cumulative development, so the cumulative impact analyses are consistent in all of these Supplemental EIRs. There is no reason why they should differ.

In each Supplemental EIR, the project's contribution to cumulative impacts is separately identified. For example, the 101 Mission project is shown to contribute 0.2 percent of all San Franciscans employed in the C-3 District in 2000 under the Downtown Plan forecast, while the One Sansome project would contribute 0.5 percent. Similar differences are shown using the list of office projects as the cumulative context.

The mitigation commitments for each project are not at issue in the impacts sections of these Supplemental EIRs. The purpose of the impact analysis and discussion is to identify the impacts that should be mitigated. There is no feedback analysis whereby project-specific mitigation commitments could be reconsidered in the cumulative impact analysis. It would be putting the cart before the horse to vary the cumulative impact analysis on the basis of project mitigation commitments.

Building Surveys Would Not Be Useful for Cumulative Impact Analysis

None of the four buildings that are the subject of these Supplemental EIRs is fully occupied. Therefore, complete information on project tenants and worker characteristics is not available. Some information has been collected to identify such items as occupancy and rental rates and is presented in Section C. Project Description.

Individual building surveys alone are irrelevant and useless for cumulative impact analysis for two main reasons. First, the subject is not the characteristics of individual building occupants, but the characteristics of total downtown activity and downtown growth. Second, specific building occupants are not necessarily representative of all (or cumulative) downtown activity or downtown growth over any time period. These reasons are explained below.

The data that could be collected from individual building surveys would not necessarily be representative of current downtown activity, in terms of either the overall mix of businesses and employees, or the groups most relevant to impact assessment (those expected to grow). Since the interviews would not be drawn from the larger downtown population but from only the occupants of specific buildings, it would be difficult to determine if the results were representative of the larger group. Even surveys in four individual buildings would probably result in too small a sample to be representative of the mix of types and sizes of businesses in downtown San Francisco.

A survey of building occupants as is suggested in the comments would add to the file of information on downtown business operations (tenant mix, relocations, rental rates) and worker characteristics. The results could only be used as examples of current conditions in particular new downtown office projects. The information from building surveys could be compared to the Downtown EIR Survey results for all C-3 District workers, as suggested in the comments. Differences or similarities would neither confirm nor deny the C-3 District Survey results, however, because the results from a sample of new building occupants would not necessarily be representative of the characteristics of downtown businesses or the behavior and characteristics of downtown workers in general.

An example of the potential range of variation among different sample observations is provided by the C-3 District office employment densities used in the Downtown Plan EIR. These are based on analyses of the C-3 District Survey results, which included observations from a variety of types of office activities in both old and new office

space. The resultant density factor represents an overall average. There could be substantial variation in the observation for any one building or business in the sample. There was substantial variation among sub-groups of the overall group of office activities: among management/technical office business activities (the types of business that could be located in these four new projects), the average 1981 employment densities for the C-3 District from the survey analysis ranged from 222 gsf per employee in Finance, Insurance, and Real Estate to 366 gsf per employee in Manufacturing and Mining. The weighted average across all five business activities in this category was 276 gsf per employee. (See Table H.3 on P. H.21-22 of the Downtown Plan EIR.)

Therefore, surveys of individual building occupants may not be useful in cumulative analysis because the results would represent only a few observations based on a relatively small and particular sample. It would not be possible to determine if the results were representative enough to apply as area-wide averages for estimating the characteristics of cumulative downtown activity.

Beyond this first limitation, individual building surveys would not necessarily be representative of the downtown growth expected in the future. Since those surveyed are not necessarily the additional jobs or the additional workers, as described in the first section of this response, the results of individual building surveys could not be directly related to the group of activities that make up the cumulative growth context for downtown San Francisco. As above, these individual building survey results would not necessarily be useful in cumulative impact analysis because they would not describe the characteristics of the growth.

The C-3 District and South of Market/Folsom Surveys (the Downtown surveys) are more useful and informative than surveys of individual office building projects; in fact, they were undertaken to provide the comprehensive perspective that would replace the piecemeal information collected over the years from surveys of new office building occupants that had previously been used in project EIRs.

Both the list-based approach and the Downtown Plan EIR approach for cumulative impact analysis rely on these more comprehensive surveys. The Downtown surveys provide representative recent data based on samples of different types and sizes of businesses. The samples included firms that had recently moved and others that had been in the C-3 District or the South of Market/ Folsom area for years. They included firms in new downtown highrises, as well as new firms in older space. They thus covered the range of potential occupants of downtown office buildings and of the types of downtown activities expected to grow in the future. The C-3 District survey sample includes 58 establishments and 3,367 employees. It covers office, retail, hotel, institutional, and industrial uses throughout the C-3 District. The South of Market/Folsom survey includes 61 establishments and 1,720 employees. It covers office, retail and commercial services, industrial, warehouse, and wholesaling activities.

The individual building surveys requested by the commenter are one small slice of the information provided in the Downtown surveys. The Downtown surveys essentially accomplished what the commenter requests, plus much more, according to a sophisticated survey and sampling methodology which allowed the results to be used on an area-wide basis. The survey methodology is described in Appendix F of the Downtown EIR Consultant's Report (summarized and incorporated by reference in the Downtown Plan EIR). The survey design, sampling scheme, and sample weighting rely on standard survey and statistical techniques to create a survey data base that is both useful and representative. Experts in survey design, sampling, statistics and economics are responsible for the Downtown surveys.

The representative data provided by the results of the C-3 District and South of Market/Folsom surveys are the best available information to use in the list-based approach to cumulative analysis. The surveys provide comprehensive data on the downtown setting, in terms of the types of businesses and the characteristics of employees. The survey results for different land uses such as office or retail are more valid and reliable estimates of the characteristics of cumulative growth than the results of individual office building surveys would be.

The results of Downtown surveys do not, by themselves, provide all of the information useful in cumulative analysis, however. Additional work is needed to establish area-wide employment totals for different land uses, to consider the relationship between these estimates and published data, and to analyze how these relationships might change in the future. This additional work is part of the Downtown Plan EIR approach to cumulative impact analysis.

The Downtown EIR C-3 District Survey was used to develop estimates of total employment and thus estimates of the number of C-3 District employees with various characteristics, e.g., how many live in San Francisco and the other Bay Area counties, how many ride BART to work, how many live in households with two workers, etc. Through this analysis of total employment, it is possible to make comparisons to other data, such as citywide employment data, transit agency passenger counts, or 1980 Census data. These comparisons are important in assessing the reasonableness of the survey results and also in establishing relationships useful in the forecasting analysis.

For example, it is known from 1980 Census data that 293,166 San Francisco residents (86 percent of all employed residents) work in San Francisco. The C-3 District Survey results indicate that about 153,670, or 52 percent of all those residents who work in the City, work in the C-3 District. The Survey estimate is not larger than the Census number and it appears to be a reasonable proportion of the total, considering how much of total San Francisco employment (589,300 in 1982 per Employment Development Department estimates) is estimated to be in the C-3 District: about 46 percent. (All of the above information is presented in Table IV.D.9 on p. IV.D.30 of the Downtown Plan EIR).

In the Downtown Plan EIR forecasting analysis, assumptions about how these relationships might change in the future are tested (number and percentage of employed San Franciscans working in the C-3 District; C-3 District employment as a share of total City employment). The current comparisons (survey to 1980/81 data) provide some basis for the relationships. The historic data available for totals from sources such as the Census and EDD are also useful inputs to the forecasting analysis. With individual building surveys, there is no means of linking to current or historic data from other sources.

Finally, the surveys themselves (either individual building surveys or an area-wide survey such as the Downtown surveys) do not describe impacts. Analyses of employment, demographics, housing, and transportation are required to identify the changes due to growth and other potential adaptations of behavior. The characteristics of the workers, such as where they live and how they get to work, must be analyzed in conjunction with employment and population totals, and housing and transportation patterns. These analyses provide a means of assessing impacts that are not directly related to the characteristics of the workers. For example, in terms of housing impacts, surveys of workers in office buildings will not identify "who is going to be replaced and where" or the chain of housing market interactions leading to gentrification. The cumulative impact analysis uses surveys and other data to provide a description of existing conditions and trends, identify the magnitude of the growth, indicate the types of impacts that could be attributable to that growth, and the groups of people that would feel the effects. This analysis provides information that goes beyond the workers to identify impacts (including changes in behavior) for all residents or all users of various transportation systems.

COMMENTS

"They [the DSEIR's] are based upon assumptions and estimates that use data that is from 3 to 8 years old. All four Settings discussions are based upon 'Appendix E'. When one turns to Appendix E which is a discussion of methodology used in 'estimating' housing patterns, one finds that it is, in turn, based upon a transportation study done in 1983. That transportation study, it turns out is itself based upon various employment estimates done at yet an earlier date. Not a rock hard data base of current information.

"The Impacts sections of these DSEIR's is based upon, again, estimates made in Appendix I of the Downtown Plan DEIR, done in March, 1984. Appendix I, it turns out, is itself based upon housing data taken from 1976 to 1981. How future impacts of a current project can be estimated using data from 1976 to 1981 is hard to understand.

"...The housing data used is old and not reflecting the current situation."
(Calvin Welch, letter of 8/23/84)

"I question the freshness of the data that...both setting and impacts are based upon. The setting discussion is based upon an Appendix E, which is the same in all four documents. If you look at Appendix E, you will find

out that the methodology is based upon a transportation study done in '83. And the transportation study is made upon economic estimates, estimates and projections, done before that date.

"In the impact section, the Downtown Plan EIR...Appendix I is referenced as the methodological source for these very general statements. And then you turn to Appendix I and you look at the data that is used to make these rather extraordinary projections to the year 2000, it's based upon hard data collected in '76 to '81.

"It doesn't seem to me that these excessively general discussions that deal with a very important question, that use data from '76 to '81, is necessarily the best way to proceed or is the best and most recent data to use." (Calvin Welch, Transcript)

RESPONSE

Appendix E in the Supplemental EIR describes the methodologies for estimating residence patterns both for the project and for cumulative development in downtown San Francisco. The comment implies that all of this analysis is based on a transportation study done in 1983 (referring to Transportation Guidelines for Environmental Review: Transportation Impacts, published by the Department in September, 1983). This is not the case.

As described in other responses, two different methods of cumulative analysis were used in these Supplemental EIRs: one based on a list of specific projects under construction, approved, and under review in downtown San Francisco; and the other based on employment and space forecasts prepared for the Downtown Plan EIR. Each method used residence patterns appropriate to its overall method of cumulative impact analysis in order to provide estimates of future conditions that were consistent within that method. For example, the transportation analysis using the list-based approach to cumulative impact assessment uses the residence patterns in the 1983 Transportation Guidelines because the list-based methodology assumes that the status quo continues into the future. The 1983 Transportation Guidelines report the current residence pattern data for the downtown San Francisco workforce based on the surveys of the C-3 District and South of Market/Folsom workers done in 1981 and 1982. It was appropriate that the cumulative housing impacts analysis using the list of projects assume the same residence patterns, in order that the list-based cumulative analyses (transportation and housing) would be internally consistent. The Transportation Guidelines merely report the survey results; they do not reflect a transportation study, employment estimates, or other economic analyses as alleged in the comments. They are cited only as the source for the workers' residence patterns for the approach using the cumulative list of downtown office development, not as the source for the Downtown Plan EIR approach.

The residence patterns for each project and for cumulative C-3 District development under the Downtown Plan EIR approach used information and data from the Downtown Plan EIR forecasts (not the 1983

Transportation Guidelines). The Downtown Plan EIR setting and the Transportation Guidelines use the same source of data for information for describing residence patterns and travel behavior of existing C-3 District workers: the Downtown EIR C-3 District Employer/Employee Survey conducted in 1982 as part of the Downtown EIR study. (The survey scope and methodology are described in detail in Appendix F of the Downtown EIR Consultant's Report, incorporated by reference in the Downtown Plan EIR.)

The survey efforts mentioned above were massive and costly undertakings. The Downtown EIR survey was the largest survey of C-3 District businesses and their employees ever conducted in the City (58 establishments and 3,367 employees were included in the sample). The South of Market/Folsom survey included 61 establishments and 1,720 employees. Both surveys coincided not only with the City's Downtown planning process, but also with the timing of the major source of information on population, housing, and labor force characteristics: the 1980 Census. This is important in order to provide a comprehensive check on the survey results and to enable meaningful comparisons of the characteristics of workers, as estimated from the survey results, to the characteristics of San Francisco or other populations, as reported by the Census. The C-3 District survey data were analyzed in 1982 and the results were reported extensively in the Downtown EIR Consultant's Report published in May, 1983 and again, in the Downtown Plan Draft EIR, published in March, 1984 (certified Final on October 18, 1984).

The impact estimates in the Supplemental EIRs vary according to the approach. The estimates of cumulative impacts in the list-based approach use the survey results on residence patterns presented in the Transportation Guidelines (as described above). This approach assumes that the current distribution of workers by place of residence continues to apply in the future. The Downtown Plan forecast approach uses the residence patterns resulting from the analysis done in 1982, 1983, and 1984, for both the Consultant's Report and the Downtown Plan EIR, not just the survey results. In addition to the C-3 District Employer/Employee Survey, the residence patterns and housing analysis relied on 1960, 1970, and 1980 Census data and other relevant data sources (including ABAG forecasts of housing units) available in the early 1980s. There are no better or more recent data sources to use. (The 1976 to 1981 data referred to by the commenter are only one component of the information used to prepare the forecasts and are presented as such in Table I.1 on p. I.12 of the Downtown Plan EIR. Building permit data for each county in the region for the 1976 to 1981 period were compared to 1970 and 1980 Census data on housing units and to ABAG's year 2000 housing unit forecasts.)

If the money were available, a new C-3 District survey could be undertaken to update the 1982 results. It is unlikely that 1984 or 1985 data would show much change in the characteristics of businesses and employees, however. Significant changes in either the types of businesses or workers, or in where workers live and how they commute to work, for a large area such as the C-3 District, would only be evident in longer term (10 to 20 year) patterns. While individual

circumstances may change frequently, measurable trends for the total, larger group generally occur more slowly. Moreover, there would be no timely context, such as that provided by the decennial Census, in which to place the observed characteristics from a 1984 or 1985 survey. Therefore, a new survey at this time would not provide particularly useful data for cumulative analyses and is not proposed. (See also Comments and Responses on the Downtown Plan EIR Section P., concerning the Department's plans to monitor downtown growth at more useful intervals during the next 15 years.)

COMMENTS

"Far more distressing is the high level of generality and vagueness of the housing sections of these documents. We are told, four times, for example that 'changes which result in individuals being newly employed in the City...can affect overall residence patterns if those newly employed have different household and housing characteristics from those whom they replace or from all other workers in the City' (101 Mission, DSEIR, p.32). What is trying to be said here and what difference does it make once said at such a generalized level. What decisions can be made based upon such a 'discussion'? Don't we need to know the specific nature of these changes in household types? Just who is going to be replaced and where? How many newly employed folks must we make room for? Just how much housing may these folks need? These questions, raised in the housing sections of the documents are raised in such a generalized fashion that we cannot answer them. Of course, the documents themselves do not attempt any such answers at all. But isn't that the point of these documents? Aren't they to lay out information needed to inform decision makers as to what the impacts of their decisions might be on the housing market? No such information is provided for either you or the public in these very generalized 'boiler-plate' housing discussions. They are of no use and should be rewritten." (Calvin Welch, letter of 8/23/84)

"Then on Page [32] in the same section, Lines 22 through 26, I found the last five sentences really difficult to understand. It says: 'Thus, as workers change their place of residence, a greater share are likely to live outside of San Francisco and those who choose to reside in the City may have different characteristics from the average of all other employees who secured housing in San Francisco under a different situation.'

"I think that means poor people are getting the boot. But I would never know that from this sentence. So, if that is what it means, and if it says we are putting extra pressure on low-income people who no longer can afford to be in this City, even maybe moderate people, then that should be stated very clearly, not some editorial paragraph that one has to draw your own conclusions." (Commissioner Bierman, Transcript)

RESPONSE

The Housing Impacts of Cumulative Development Are Identified and Described

The discussion of cumulative housing impacts in these Supplemental EIRs is a summary of the information presented in the Downtown Plan EIR. This explains some of the generality. More detailed discussion is presented in Section IV.D. of the Downtown Plan EIR and in Section D of the Downtown Plan EIR Comments and Responses, which are also incorporated by reference.

The housing impact discussion is necessarily generalized; it is not vague. The relationship between employment growth and housing market impacts is complex. The interaction of the many factors affecting the demand for housing and what households pay for housing (demographics; household incomes, lifecycles, and preferences; mobility and migration; economic conditions etc.) cannot be boiled down to provide simple answers to questions such as those raised by the commenter. Moreover, it is not possible to quantify this impact information with direct relationship to either the project or to cumulative downtown development. There was certainly no interest or intent to present the information in a more complex way than was necessary.

The housing impact discussion does provide generalized conclusions about future housing market conditions in the Bay Area and the contribution of downtown growth to those conditions. The Supplemental EIRs identify how many workers would live in San Francisco and other parts of the Bay Area (the residence patterns of future downtown workers). The housing market implications of this growth and change are identified, i.e., the types of adaptations households will make, the types of changes likely in the housing stock, and how the circumstances of existing residents could change.

Finally, the analysis recently completed for the City's proposed Office-Housing Production Program ordinance provides decision-makers with the basis for assessing mitigation for the types of impacts identified here, as they relate to office development. The OHPP analysis is consistent with the cumulative housing impact discussion in the Downtown Plan EIR and in these Supplemental EIRs.

Clarification of Residence Patterns Discussion

The comments indicate confusion about the residence patterns and housing information presented in the Supplemental EIRs. The statements cited by the commenters are part of the description of the setting relevant to housing market impacts. These particular statements, and the rest of the setting, present background information on the existing situation regarding where downtown workers live, the relationship between downtown jobs and the workers' housing situation, and the assumptions that are the basis for the impacts discussion later in the Supplemental EIR.

The commenters' confusion centers on the discussion of residence patterns. To clarify: residence patterns are simply a description, through the use of absolute amounts and percentages, of where downtown workers live. The residence patterns describe workers only; they do not apply to the total population.

Residence patterns alone are not a description of housing market impacts in terms of the overall availability or price/rent of housing. In the setting discussion in these Supplemental EIRs, the residence patterns of C-3 District workers describe how many C-3 District workers live in San Francisco and what proportion these San Franciscans represent of all employed San Franciscans. The number of C-3 District workers living elsewhere in the Bay Area is also described in this way. The impact discussion presents residence patterns for future downtown workers. Considering where workers live, how many live in each place, and how this pattern might change over time is the basis for describing the implications of these residence patterns for local housing market conditions.

Confusion arises in the discussion of how and why residence patterns change. This discussion uses citywide and regional demographic, labor force, and employment data and trends to illustrate relationships that are important to understanding the context for where people live and work. These relationships include the employed population relative to total population, the number of households and housing units relative to total population, employment growth relative to population growth, and the supply of housing in one location relative to others. These relationships, which reflect demographic and housing market factors, are indicators of how and why the residential distribution of C-3 District workers has changed in the past and might continue to change in the future.

The two sentences cited in the comments refer to the factors explaining changes in where workers live and how this is reflected in the residence patterns of workers. The implicit comparison here is between the workforce at one point in time and the workforce at another point in time. These groups have different residence patterns (described by the number and percent living in San Francisco, for example) as a consequence of the citywide and regional demographic, employment, and housing market factors mentioned above. Other segments of the population (i.e., those not working) are not explicitly considered in this analysis of the residential distribution of workers. The statements referenced are not intended to provide any of the impact information that the commenters infer regarding displacement, gentrification, or "poor people getting the boot".

The implications of cumulative downtown development for where workers live and for the housing situation of other residents are described in the Residence Patterns and Housing Impact Section of the Supplemental EIRs. This section describes how the prices/rents for housing would be affected by downtown growth and identifies the types of impacts that would be felt by various types of residents. The impact section states that those with the fewest resources to pay for housing (low and some moderate income households) would bear the greatest share of

the negative impacts of a housing market with higher prices/rents. These impacts vary--households could move to less satisfactory housing in the City or elsewhere, or more household members could have to contribute to housing expenditures (either within the existing household or because people decide to live together to combine their incomes). It is more likely that the poor will continue to live in the City, although in more crowded or otherwise inadequate housing, than move outside the City. (Also see Section D.3.1 in the Downtown Plan EIR Comments and Responses, particularly pp. C&R-D.31 - C&R-D.38, for more discussion of displacement, gentrification, and neighborhood change as they relate to cumulative downtown growth.)

COMMENT

"Page [30] It's in about the second paragraph. It begins with 'trends' in the second line and ends with 'declining,' and I can't understand that sentence. I pondered it and puzzled over it, and I don't know what it means or how they arrived at it." (Commissioner Bierman, Transcript)

RESPONSE

The general level of understanding is addressed in the preceding response. This response presents a simple example to clarify the mathematics. The confusion arises from the use of both absolute numbers and percentages. The following example illustrates how a number describing a certain group can increase, while a percentage describing that same group declines.

	<u>Year 1</u>	<u>Year 10</u>
Number of Apples from Tree A	100	200
Number of Apples from all Trees in Orchard	1,000	3,000
Apples from Tree A as a Percent of All Apples from Orchard	10%	7%

In this example, the production of apples from Tree A doubles in ten years, increasing from 100 to 200. Over these same years, Tree A represents a declining percentage of the total production of the orchard, however, declining from 10% to 7% of the total. This is because the total production of apples from the orchard increased at a greater rate than the production of apples from Tree A.

Similarly, the number of San Franciscans working in the City increased by over 9,000 between 1970 and 1980 (from 283,615 to 293,166). These San Francisco residents represented a smaller percentage of total employment in the City in 1980, compared to 1970, however, declining from 57.4 percent to 50.7 percent. The percentage declined because, over the same ten-year period, total employment in the City increased

by over 84,000 (from 494,129 to 578,600). (The above information is from the U.S. Census, County Business Patterns, and the State Employment Development Department.) Table IV.D.13 on pp. IV.D.43-IV.D.44 in the Downtown Plan EIR presents these as well as other data describing trends in population and employment in San Francisco.

COMMENT

"Page[10], in the indented paragraph, says: 'Generally, households with fewer financial resources to pay for housing would make the most sacrifices in adapting to more competitive market conditions. San Francisco currently has and will continue to attract a large number of persons who would be faced with greater difficulty in securing housing.'

"I think that is a very roundabout way of saying that people will be forced to live in other parts of the Bay Area, not in San Francisco. If there is no housing here, it's the few pitiful homeless people who will be living on the streets. You might mention those too, but I don't think those happen probably from high-rises. Maybe they do, maybe they don't. But this paragraph, I think, should say that they will be living out; they will be forced out." (Commissioner Bierman, Transcript)

RESPONSE

This statement in the summary section of the Supplemental EIRs does not mean that San Francisco's poorer residents will be forced to move to other parts of the Bay Area as a consequence of downtown growth. It is part of a series of statements describing the types of changes expected in San Francisco's housing market as a consequence of employment growth. As the final statement, it identifies the group of people who have the least ability to compete for the housing that would come under increased demand pressure, and who thus could experience a disproportionate share of the negative housing market implications of downtown growth. More discussion of these implications is presented in the complete Residence Patterns and Housing Impact section. (This section itself is a summary of the analysis and discussion presented in the Downtown Plan EIR.)

The complete discussion explains that downtown growth is only one of the many factors affecting the City's housing market and the housing choices for City residents, particularly those with fewer financial resources. The summary statement refers to the following types of sacrifices, which are described in the impact section. Some people would pay more for the same quality housing, others may end up with lower quality housing; some would decide to move out of the City, others would decide not to move in; and many would allocate a larger share of their resources for housing. The adaptations to changing housing market conditions will vary among households. It is not possible to quantify how many would experience each type of impact, i.e., how many would move out of the City, how many would move in with others, how many would move to less than satisfactory housing.

Summary of Comments and Responses

The effects of gentrification are included in the types of impacts identified. The upgrading of the relatively lower-cost existing housing in some City neighborhoods is an important component of the housing supply in the housing market in San Francisco (with strong demand and limited sources of new supply). As this housing is upgraded, it is no longer affordable to those who have lived in these neighborhoods, and the result is the types of impacts identified above.

These types of impacts are the indirect effects of downtown workers adding competition to the City's housing market; they do not encompass potential direct displacement, due to downtown development, of persons residing in residential hotels or apartments downtown. This type of displacement could result in more homeless people; those whose last resort is the inexpensive housing downtown would have very few housing options if the building they lived in was demolished for new commercial development.

COMMENT

"In common usage, a more competitive housing market would suggest lower prices and rents in contrast to the statement contained in the first sentence of the last paragraph on page [81]." (Letter of Howard N. Ellman)

RESPONSE

It is possible to use the term "competitive market" to describe two different types of market situations. One is a market where there are a large number of demanders relative to the supply. For example, individuals having difficulty finding affordable housing in San Francisco are likely to refer to the City's housing market as being very competitive (from the demanders' perspective). A different type of market context arises where there is a large supply relative to demand. For example, when there is a large amount of new office space on the market and vacancies are high, developers and real estate agents are likely to describe this situation as a competitive office market (from the perspective of the available supply). There is no common usage of the term "competitive" per se. It depends on the market conditions being described (whether it is a buyer's or a seller's market).

The statement cited in the comment follows the logic of the argument presented in the preceding three paragraphs of the EIR text (and used throughout the discussion of the housing market setting and impacts in both the Downtown Plan EIR and these Supplemental EIRs). As described in the Supplemental EIRs, San Francisco's housing market is competitive in that housing demand is strong relative to the supply. Housing prices and rents are higher and vacancies are lower than in many other locations, reflecting this market context. One of the implications of employment growth is that there will be more people competing for the supply of housing. The market context into which the additional employment would be introduced is the reason why there would be a more

competitive market in terms of greater competition for San Francisco housing. That market context is also the reason why the increased competition would support higher prices and rents (rather than lower prices and rents as suggested by the commenter).

COMMENT

"The presence of a rent control ordinance should be cited as one reason for a shortage of new rental construction at page[34]. It is disingenuous for the EIR to state that '. . . residential rents, unlike for-sale housing prices, have not kept pace with rising construction and land costs or with inflation . . .' without stating that the structure of San Francisco's ordinances tends to inhibit any attempt to keep pace, etc." (Letter of Howard N. Ellman)

RESPONSE

Rent control may be one reason why rents have not kept pace with development costs, thereby discouraging investment in new rental housing. The City has no specific data to support or disprove this point. The statement in the EIR setting stating that "...residential rents...have not kept pace with rising construction and land costs or with inflation..." can be documented. An explanation of why this occurred cannot be as easily documented and would require discussion of all the possible factors involved. Further, such an inquiry is beyond the scope of these Supplemental EIRs. The purpose of the discussion in the housing market setting is to provide a brief description of relevant housing market conditions and trends. The purpose of the impact assessment is to focus on the role of employment growth within the context of other demand and supply factors and not to specifically address the housing market impacts of other factors (such as rent control).

COMMENT

"In the past two years there have been new and significant trends in location of office space and housing in the region. A major area for new development in San Francisco is in the South of Market area and in the industrially zoned areas outside the C-3 District. A May, 1984 article in the San Francisco Chronicle published a report which is showing that San Francisco housing is increasingly being used by people employed in the Peninsula. This means that commercial office and business development outside of San Francisco is creating a housing demand which cannot be accommodated by the counties in which that development occurs, let alone absorb demand generated by San Francisco development....

"The FEIR should indicate what housing and transportation demand will be generated over the next 16 years in each of the other bay area counties. Do the other counties in the Bay Area have plans or ability to construct the housing (in excess of housing needed to satisfy internally generated housing demand) to satisfy the demand for housing from San Francisco

development that the Downtown Plan EIR presumes will be accommodated in their counties?" (David Jones, letter of 8/21/84)

RESPONSE

The comment questions the regional residence patterns and housing analysis from the Downtown Plan EIR that is presented in the Supplemental EIRs as the Downtown Plan EIR forecast approach. The future context of employment, housing, and labor force throughout the region was an important consideration in forecasting the future residence patterns of C-3 District workers and in assessing the regional housing impacts of cumulative development as done in the Downtown Plan EIR. For the Downtown Plan EIR, a consistent set of forecasts of jobs, housing, and workers to the year 2000 described the regional context. ABAG's regional forecasts of future housing supply and employment for counties outside San Francisco were combined with estimates for San Francisco to develop regionwide totals for the year 2000 and to describe the amount and distribution of regional housing and employment growth during the 1980's and 1990's. Regional forecasts of labor force growth were prepared to be consistent with the employment and housing forecasts. Similar comments were received on the Downtown Plan EIR and are responded to in the Downtown Plan EIR Comments and Responses (September, 1984). This response to comments received on the Supplemental EIRs summarizes information presented in Section D.3.2.1 of the Downtown Plan EIR Comments and Responses, which is incorporated by reference.

Cumulative Perspective on Regional Employment Growth

Other growth expected throughout the region was included in the Downtown Plan EIR analysis of the housing impacts of C-3 District growth. The approach was to use ABAG's regional employment forecasts to describe the growth that is expected to occur by the year 2000. These forecasts incorporate the plans and projects that are expected to be completed by 2000. They also include future employment in projects as yet not conceived or proposed. Further, they account for the net result of decreases in employment as firms go out of business or cut back on operations and increases in employment accommodated by new development. They also account for changes in the use of existing space.

The approach used in the Downtown Plan EIR provides a cumulative context that is consistent with the time frame for the EIR analysis (1981-2000) and a cumulative employment context that is consistent with forecasts of expected future housing and labor force throughout the region. To assess housing impacts, it is important that expected growth of employment be analyzed within the context of expected growth of the housing supply and of the region's workforce for consistent time periods.

Cumulative Perspective on Regional Housing Supply and Labor Force

In addition to regional employment growth, the future regional context included the future housing supply. ABAG's forecasts of the regional housing supply (used in the Downtown Plan EIR analysis) incorporate housing market factors as well as land use policies and development plans from all Bay Area communities.

The comment asks about the plans and policies of other counties outside of San Francisco to produce the housing assumed in the Downtown Plan EIR. The following points (from ABAG's Projections '83) indicate how each community's ability to supply housing was taken into account in the ABAG forecasts:

- "The development policies of the cities and counties are assumed to have a major effect on the type and extent of growth within the region." (p. 13)
- "Projections '83 assumes direct use of the local policy data for the period 1980-1990. In other words, current local policies concerning the amount of land with services available during this period were assumed to remain in effect until at least 1990. After 1990, current policies were assumed to continue to remain in effect in most areas, as the supply of land by type and intensity of use was sufficient to accommodate growth projected for these areas." (p. 17)
- "The projections for the long term, 1990-2000, assume that essential public services and infrastructure will be available to accommodate new development." (p. 17)

The employed population that could be accommodated in the future housing stock was another factor defining the regional context. The additional C-3 District workers are part of this future population. As explained in the Downtown Plan EIR, the future size and distribution of the labor force throughout the region (the residence pattern for the region's employed population) depends not only on the future number of housing units, but also on the average number of workers per housing unit in both the new housing and the existing housing stock. Expected trends in workers per household were considered along with the housing supply forecasts in estimating the future context for employed residents throughout the region.

The average number of workers per household is expected to increase during the forecast period (as forecast by ABAG and confirmed by other experts). The future rate of increase is forecast to decline over

time however. Labor force participation* is expected to continue to increase, but at lower rates of growth than occurred in the past ten years. Most of the "baby boom" generation have already entered the labor force, and the overall population is aging, so that those over 65 years of age will represent an increasingly larger share of the population in the future. Although the labor force participation of women has already increased substantially, additional growth is forecast for the future. In addition to labor force participation, increases in workers per household will also reflect changes in how workers group into households. These increases will reflect such factors as adaptations due to housing costs and changes in lifestyle preferences.

Increases in the average number of workers per household will occur gradually over time. Some of the increase will reflect changes made by persons who presently live in the region (e.g., more women will work, more workers will live together). The other changes contributing to the overall increase will occur because those households who move into the region over time will, on the average, have more workers per household than the households they replace or than the average pattern for the rest of the households in the region.

As a consequence of the expected increases in labor force participation and in the average number of workers per household, increases in the employed population will occur from among the households living in the existing housing stock as well as through the addition of households because of housing development. Thus, all of the additional jobs in the region between 1984 and 2000 will not be filled by persons housed in additional dwelling units. As a consequence, the residential distribution (among counties) of the region's future labor force is determined by the location of the existing supply of housing as well as by the location of expected future housing development.

Cumulative Perspective on Residence Patterns and Housing Impacts

The residence patterns of C-3 District workers and the associated housing market implications were derived within the cumulative context described above. For this analysis, two aspects of the cumulative perspective are relevant.

One is the perspective of total employment, labor force, and housing in the region. The Downtown Plan EIR analysis reflects the fact that the total number of workers needed to be housed in the region in the future must be equal to the total number of jobs that are forecast (after accounting for the

* Labor force participation refers to the choice of those in their working years (generally ages 16-65) to seek a job. The labor force consists of all those 16 years old and over who are either employed or unemployed (and looking for work). The labor force participation rate is the number of persons in the labor force per 100 persons in the population 16 years old and over.

relatively small number of people who either commute to jobs outside the region or commute to Bay Area jobs from outside the region). This total amount of future employment includes C-3 District growth and all of the employment growth forecast for other parts of the region.

The second perspective is the implications of the distribution within the region of employment growth and the growth of the employed population. The future locational distribution of all jobs relative to the residential distribution of all persons who work will affect the abilities of businesses to compete for workers residing in various counties, the competition that workers will face for housing in various locations, and the resultant commute patterns.

The Downtown Plan EIR did not analyze the impacts of all growth within the region. It analyzed the implications of C-3 District growth within a consistent, cumulative context of all other growth and activity expected throughout the region. In other words, within the context of the future region-wide pattern, the Downtown Plan EIR focuses on the role, the relative importance, and the implications of a part of the total expected growth--that part represented by growth in the C-3 District.

The analysis accounts for all other regional growth in considering where C-3 District workers would reside. The analysis was sensitive to the future growth of employment elsewhere in the region and to the ability of the housing supply to accommodate this growth.

The table on the next page (Table C&R H.1) compares C-3 District workers expected to reside in each of the counties of the region in the year 2000 to the total employed population forecast for each county in 2000. It also provides a similar comparison for the situation in 1980/81. This table was originally prepared for the responses to comments on the Downtown Plan EIR (see Table C&R D.4 in the Downtown Plan EIR Comments and Responses, p. C&R-D.44).

The table shows forecasts of the region's employed population for 2000. The Downtown Plan EIR scenario was developed prior to the release of ABAG's Projections '83. Although the estimates are very similar, the EIR figures are slightly higher than the ABAG forecasts, consistent with the EIR's higher employment forecasts for the C-3 District. Both forecasts are shown in the table to indicate that the percentages reflecting the relative importance of C-3 District workers among all employed residents in each county are nearly the same, no matter which forecast is used.

[This table is similar to Table 9 in the Supplemental EIRs. This table only shows the Downtown Plan forecast which uses the residence patterns and housing analysis that is the subject of the comment. It presents more detailed information (estimates for counties as opposed to quadrants of the region) and shows the estimates of the total employed population. The conclusions to be drawn from both tables are essentially the same.]

TABLE C&R H.1: C-3 DISTRICT WORKERS COMPARED TO EMPLOYED POPULATION BY COUNTY, 1980/81 and 2000

County	TOTAL, 1980/81		TOTAL, 2000		For Each County, C-3 District Workers As A Percent Of Total Employed Residents 1980/81		For Each County, C-3 District Workers As A Percent Of Total Employed Residents, 2000 ABAG Forecast EIR Scenario	
	C-3 District Workers By Place of Residence	Employed Residents (1980 Census)	C-3 District Workers By Place of Residence	Employed Residents ABAG Forecast	Employed Residents		Employed Residents	
					EIR Scenario	EIR Scenario		
San Francisco	153,700	342,500	189,000	404,000	398,000	44.9%	46.8%	47.5%
Alameda	34,400	514,700	55,000	694,000	700,000	6.7%	7.9%	7.8%
Contra Costa	29,100	305,300	47,000	473,000	460,000	9.5%	10.1%	10.3%
Solano/Napa	2,900	133,300	8,000	240,000	255,000	2.2%	3.3%	3.1%
San Mateo	30,600	313,500	45,000	391,000	405,000	9.8%	11.4%	11.0%
Santa Clara	1,800	661,100	3,000	935,000	950,000	0.3%	0.3%	0.3%
Marin	16,000	116,800	26,000	160,000	170,000	13.7%	16.1%	15.2%
Sonoma	1,800	130,100	3,000	233,000	250,000	1.4%	1.5%	1.4%
TOTAL	270,300	2,517,300	376,000	3,530,000	3,588,000	10.7%	10.7%	10.5%

NOTE: This table presents total C-3 District workers and the total employed population in the region in 1980/81 and in 2000 (not just the C-3 District workers or the employed residents added between 1980/81 and 2000). The numbers of C-3 District workers living throughout the region in 1981 and the forecasts of future residence patterns in 2000 are those developed for the Downtown Plan EIR. The small number of workers who would live outside the region are not shown here. The 1980 data for the employed population in the region are from the U.S. Census. There are two forecasts of the region's employed population in 2000. The ABAG forecast is from Projections '83. The EIR scenario was developed for the Downtown Plan EIR analysts prior to the release of ABAG's Projections '83 report. Although the estimates are very similar, the EIR figures are slightly higher than the ABAG forecasts, consistent with the EIR's higher employment forecasts for the C-3 District. Both forecasts are shown above to indicate that the percentages reflecting the relative importance of C-3 District workers among all employed residents in each county are nearly the same no matter which forecast is used. As for the base year percentages, the differences in base years (1980 and 1981) introduce only minor inconsistencies in the comparison.

SOURCE: Recht Hausrath & Associates

As shown in Table C&R H.1, C-3 District workers represent a relatively large percentage of San Francisco's employed population and relatively smaller shares of the employed population in other counties of the region. In 2000 as compared to 1980/81, C-3 District workers would represent similar proportions, with small increases.

Because housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the C-3 District percentages of the region's employed population in each county would not be large indicates that C-3 District workers would not require much larger shares of the region's housing in 2000 than they do now. In other words, a housing stock consistent with local policies could accommodate both future C-3 District workers and future workers elsewhere in the region. This accommodation depends on adaptations in the housing market which have implications for both worker households and other residents. The implications could include changes in the type of unit occupied (by choice or for housing affordability reasons), more household members contributing to housing expenditures, and changes in the share of income devoted to housing expenditures.

COMMENTS

"There needs to be solid information about what happens when you add another hundred, another 200,000 workers into downtown San Francisco with the housing problems that we have in the region. They're not going to live in Las Positas. Maybe they'll live in Las Positas...Is that the answer to our housing problems? Are we going to export our problems to the Livermore Valley? That is a very controversial project for 20,000 housing units, housing units that will not be affordable by the people that are going to be working in the immediate area because the jobs are low income jobs." (Sue Hestor, Transcript)

"On the next page [Page 11, 101 Mission], it says: 'As part of the total regional employment growth to the year 2000, increases in San Francisco employment can be viewed as contributing to regional housing demand and to a competitive regional housing market with relatively high housing prices and rents.'

"Because we are saying that, I wonder whether we are also talking about the environmental impacts caused on the open space throughout the region. I just recently have had invitations to come to a green belt group who is concerned with the green belts throughout the region, the Bay Area. If we are forcing housing, where do we think it will go except to some of those valuable green open spaces? That should at least be dealt with, I think. That was on Page [10]." (Commissioner Bierman, Transcript)

RESPONSE

Similar comments to those above were submitted on the Downtown Plan EIR and have been responded to in the Downtown Plan EIR Comments and Responses document, published September, 1984. (See particularly

Sections D.3.2.3 and D.3.2.4.) The following response highlights the key points from the discussion in the Downtown Plan EIR Responses to Comments that are relevant to the issues raised here regarding the development of housing at the periphery of the region and the loss of the region's open space.

First, the numbers used by the commenter are not correct. According to the Downtown Plan forecast, about 106,000 additional people would work in the C-3 District in 2000 compared to 1981 estimates (not 200,000 as cited in the comment). The increase in C-3 District workers between 1984 and 2000 under the Downtown Plan would be 90,000, as shown in Table 9 of the Supplemental EIRs. The projects on the cumulative list represent an increase of 66,000 workers downtown over 1984 estimates (also shown in Table 9). (Also see Table C&R E.4 in these responses to comments.)

Future regional housing development will depend on a variety of factors besides downtown San Francisco development and employment growth. It is not accurate to conclude that cumulative development in downtown San Francisco is "forcing housing" to be built that uses up the region's agricultural or open space resources. Other factors besides employment growth which contribute to changes in housing demand include a variety of demographic, income, lifestyle, household lifecycle, and investment reasons. Supply factors which affect the market's ability to respond to changes in demand and have an important bearing on development patterns include local land use policies, financial market factors, and the commitment of government to housing priorities. Moreover, downtown San Francisco employment growth represents only part of total regional employment growth. In fact, other employment growth throughout the region will be a more important factor in determining future housing demand. Future C-3 District growth is expected to represent about ten percent of total regional employment growth from 1981 to 2000 (about 100,000 additional jobs in the C-3 District compared to about one million additional jobs region-wide). Although the distribution of downtown workers will vary among parts of the region, they will continue to represent a relatively small percentage of the total demand for housing outside of San Francisco. (See preceding response, especially Table C&R H.1 and associated text.)

It is true that as the region grows, it is likely to expand outward, increasing the size of the developed area and reducing the supply of vacant land at the periphery that had been in agricultural use or open space. Although this process occurs, it is not necessarily a "one-for-one" change in which the additional workers all represent additional households and the need for additional housing units. There will be changes in the demographic and labor force characteristics of the population such that some additional workers will be supplied without adding households and housing units. Further, it is possible that housing and households could be added by accommodating higher densities in already developed areas, thereby reducing the amount of land otherwise needed for new development.

The extent to which development occurs at the periphery and the patterns of that development (such as its density or whether it is added in largely developed areas or in more isolated new communities) depend on the policies for housing development in communities throughout the region as well as on the growth of employment and its associated demand for housing. In other words, while the growth of employment affects the demand for additional housing, the local policies affecting how and where housing can be supplied (in already developed areas and at the periphery) are more important in determining the extent that housing growth actually occurs at the periphery and the types of impacts on agriculture and open space/recreation that are of concern.

Generally, the comments imply that the growth forecast for downtown San Francisco under the Downtown Plan or represented by the development on the list of projects would result in the development of more agricultural and open space land than would growth under more restrictive downtown development policies. This is not necessarily correct. One must consider where the employment growth would locate if it were not allowed in downtown San Francisco, how that pattern of future commercial and industrial development would affect the development of land at the periphery, and, then, whether there would be differences in the demands for additional housing and the implications of those differences for the use of peripheral land for housing.

Although the total growth of the region would probably be lower with less downtown San Francisco growth as compared to more growth (since some businesses would substitute a location outside the region), the substitutions for downtown locations of other areas in the City and throughout the region could result in a lower overall density of development and a more dispersed overall, regional development pattern. This more dispersed pattern could very likely use more land area than a more centralized pattern with higher overall densities. The policies of other agencies in the region would affect how much of, and in what pattern, growth that would otherwise be in downtown San Francisco, would instead be accommodated elsewhere in the region.

Therefore, whether pressures on agricultural land and open space are increased or reduced because of downtown San Francisco growth depends in part on the policies of other local agencies in the region. San Francisco has no control over land use policies in other communities.

COMMENT

"The second sentence on page 10 is ungrammatical and should be revised to read:

'The persons employed in the Montgomery/Washington [101 Mission] project would be part of this total.'" (Howard N. Ellman, letter of 8/23/84)

RESPONSE

In response to this comment, the words "The persons employed in" are added at the beginning of the second sentence on page 10 of the Supplemental EIR.

I. EMPLOYMENT

COMMENTS

"Are the employment opportunities created by this new office development project necessary to provide sufficient job opportunities to existing San Francisco residents with the prerequisite skills or are there already sufficient job opportunities for existing skilled residents created by the turnover in existing office development?"

"On Page V.D.12 of the Downtown EIR Consultant's Report it states that:

'the Downtown EIR Employee Survey indicates that each year about 20% of the workforce is newly employed downtown. The change results from the growth of employment, from the movement of businesses in and out of the C-3 District, and from turnover of employees holding existing jobs (as workers quit, are fired, or are laid off and take a job outside the C-3 District, decide not to work, or retire). If this percentage is applied throughout San Francisco it would indicate that, on the average, about 107,300 people were newly employed in the City each year during the 1970's, including an average of 8,450 newly employed persons each year because of job growth. This would indicate about 8 percent of those newly employed in the City each year are newly employed because of job growth.'

"Table IV.C.4 of this report shows that, in 1981, there were 589,300 workers in San Francisco. Based on the recent employee survey in the Downtown EIR this would mean approximately 118,000 job opportunities would be created each year through turnover in existing C-3 jobs.

"Table E-1 on the next page shows how many San Franciscans are unemployed or are graduating from schools and are wishing to enter the labor force in any given year. This table shows that, with no additional highrise office development there would be 71,834 more jobs available than San Francisco residents needing jobs.

"The reason that San Francisco residents do not get these jobs, therefore, may not due to a lack of job opportunities. The reason they do not get jobs may be either because:

- they do not have the skills required for the C-3 jobs; or
- they do not have the experience required for C-3 jobs (many employers require high experience levels because of S.F.'s desirability)

"In either case, 118,000 jobs are available each year for those with the skills or experience; but for those without the prerequisite requirements for C-3 employment, even if you double the number of jobs available, they will still not qualify.

	San Francisco resident wishing to enter job market
Unemployed San Francisco residents*:	23,900
Graduates from high schools**:	5,606
Graduates from San Francisco Colleges***	5,150
S.F. college graduates from other colleges:	3,010
Residents returning to job force (mothers, disabled, etc.)	8,500
Total San Franciscan's wishing to enter the workforce each year:	46,166
Total number of jobs created in San Francisco each year through turnover in <u>existing</u> jobs (with no new development):	118,000
<u>Excess</u> number of job opportunities compared to jobs needed:	71,834
*Based on average 1982 unemployment rate for S.F residents	
**Based on 8,626 eighteen years olds in S.F. (1980 census); assumes 65% of them do not go to college	
***2,500; 4,100; 1,800; and 1,900 graduates from USF, SFS, SFCC, and other schools respectively, 50% of which wish to stay in S.F.	

Table E-1: Number of jobs which become available each year through turnover of existing jobs without any new development. There are more job opportunities available than S.F. job seekers. San Franciscans unable to get jobs lack the skills or experience to get the jobs which are available in the C-3 district.

"That the construction of a new 500,000 square foot highrise office tower will create about 2,000 additional jobs does not mean that any of these jobs will go to San Francisco residents. Assuming the skills required for new highrises offices are similar to those in existing offices, Table E-1 shows that San Francisco already has a surplus of jobs available for individuals with sufficient skills or experience. If a San Francisco resident was unable to qualify for any of the 118,000 available jobs, it is unlikely that they will be able to qualify for additional jobs without further training.

"A new highrise office building of 500,000 square feet would only add 1.5% new jobs. This and other office development EIRs frequently note that they will contribute 1-2% additional transit, traffic, air pollution, and housing problems, but state that this percentage increase is insignificant" or "undetectable". Using the same logic, the addition of 1-2% more jobs requiring the same job skills which San Francisco's unemployed do not possess results in an insignificant amount of new job opportunities for San Francisco residents.

"(1) What are the job skills required by this project and how many unemployed existing San Francisco residents possess these skills and are actively seeking employment?

- "(2) Are there any quantitative studies or other information which indicates that the number of jobs created by turnover in existing office development in San Francisco is insufficient to provide job opportunities for those existing San Francisco residents who possess the prerequisite skills and are willing to work for the salaries offered?
- "(3) The FEIR should indicate whether there is any quantitative basis to indicate that the job opportunities in the project will go to unemployed San Francisco residents.
- "(4) Is there any quantitative factual basis for past Planning Commission findings during EIR certification that the employment benefits of the office building will go to San Francisco residents and that this benefit overrides findings of negative environment impacts?" (David Jones, letter of 8/21/84)

"Please tell us how many unemployed San Franciscans got jobs in each of these buildings and how they were recruited. Tell us how we met the needs of the resident unemployed workforce." (Sue Hestor, Transcript)

RESPONSE

Introduction

The commenter raises the issue of the relationship between employment opportunities and cumulative development. The commenter presents information from the Downtown Plan economic analysis and his own data on the San Francisco labor pool to raise questions about the employment benefits of cumulative development for San Francisco residents. This response first addresses the basic issues raised by the commenter about job turnover and job growth without getting into the specifics of the numbers presented in the comment.

The commenter's argument centers on the contention that, if there are still unemployed San Franciscans in spite of the opportunities provided by turnover of employees in existing jobs, then job growth would not improve the situation. Job turnover provides more job openings each year than job growth. Furthermore, the commenter goes on to argue that job turnover provides more openings each year than there are existing unemployed San Franciscans looking for work (i.e., the unemployed and new entrants to the labor force). Therefore, he concludes that job turnover should be "sufficient" to provide jobs for unemployed San Franciscans looking for work.

The commenter then points out that, even with the job openings provided by turnover, there are still unemployed San Franciscans (i.e., job turnover does not solve the City's employment problems). The commenter concludes by questioning the benefits of job growth, when turnover of existing jobs alone does not employ the unemployed: how can job growth help, if turnover does not?

Response to Basic Argument

The commenter's argument is not correct. It is important to understand that job growth and job turnover are interrelated. They cannot be treated as two separate and distinct sources of employment opportunities.

Employment growth affects job opportunities arising from both job growth and job turnover. Employment growth provides opportunities that would not otherwise be available and also affects the amount of job opportunities due to turnover, as the pool of existing jobs gets larger over time. Employment growth also affects the mix of types of jobs. The mix changes not only because of the jobs added, but also because the existing jobs change (i.e., the number stays the same, but the characteristics of the businesses and jobs change over time).

Comparison to hypothetical no-growth situations highlights the role of job growth in maintaining as well as increasing downtown job opportunities. No growth does not guarantee a status quo situation for existing employment. Two scenarios are possible. In both, the range of jobs would be limited. One scenario, which assumes demand for space in downtown San Francisco continues, would result in a workforce where the more highly-paid executive, managerial, and professional positions predominate. (In this scenario, executive and headquarters functions and corporate business services bid up the rents for space. There would be fewer space options for small businesses, information-processing functions, etc. The result would be fewer entry-level job opportunities.) In the other no growth scenario, the demand for space downtown would not continue as businesses chose alternative locations. The economy would stagnate and there could be a decline in employment opportunities in San Francisco.

Job turnover does provide job openings each year. Because of turnover, different people are employed downtown over time. It is also true that, in any one year, job turnover employs more people who had not previously worked downtown than does job growth. It is important to recognize that all of those newly employed downtown due to job turnover are not necessarily people who were not previously working (the unemployed and new labor force entrants discussed in the comment). Some could be people previously employed outside the downtown who change jobs. They may, for example, replace someone with a similar job background who moved or retired.

Employment growth is the only way that a larger number of people will be employed downtown. Increased economic activity in downtown San Francisco increases the probability that unemployed San Franciscans will find jobs in the City. Those looking for work who have the prerequisite skills and are willing to work for the salaries offered would benefit the most from employment growth. In fact, when such people are not employed this implies that there is not a large enough demand for workers relative to the labor force supply. In other words, unemployment of these types of people arises because of strong competition among labor force members for the available jobs, not

because those seeking employment lack the appropriate skills and training. In this situation, job growth results in more of these people being hired.

Employment growth covers a broad range of occupations and labor force characteristics; not all of the growth is in the more highly-paid positions requiring more skills and experience. Downtown office employment growth provides entry-level opportunities in clerical and technical office occupations. With growth and the consequent changing composition of the job base, there would be more entry-level opportunities for the unemployed and for those newly entering the labor force.

It is important to recognize that there will be unemployed San Franciscans under all scenarios, with or without downtown growth. There are numerous social, educational, and training problems that will clearly not be solved by job growth alone. There are also many reasons why San Francisco is home to a larger number of people facing these problems than other areas of the region. San Francisco is the center city of the region; it is the point of entry for many foreign immigrants; San Francisco's public and non-profit welfare and social service agencies provide more extensive services than those in many other communities in the region. Therefore, because existing employment in downtown San Francisco does not result (through job turnover) in full employment for San Franciscans, it does not mean that there are no benefits from employment growth or that San Francisco is better off without growth (relying only on turnover to provide job openings).

Finally, the benefits of job growth go beyond those looking for work. With job growth, there are more opportunities and more different types of jobs for those seeking advancement or a more convenient job. This includes the large group of existing entry-level workers who could move up to a higher-level position.

In conclusion, while it is clear that there are many in San Francisco who have employment problems and are unlikely to find jobs in downtown San Francisco, continued employment growth would provide more employment benefits than would no growth. More San Franciscans, especially those with the skills and education required, would be employed and there would be more opportunities for advancement and change for those already employed. Although residents without the skills and training would still not be likely to find jobs, the potential for employment for these residents, as well as the others, would be worse with no downtown growth.

This is not an issue of the "sufficiency" of the job opportunities provided by turnover. The basic issue is whether San Franciscans are better off with growth. The conclusion is that growth provides opportunities over and above those offered by turnover. Moreover, without growth, opportunities could decline over time.

Problems with the Comparison Table

The commenter presents a table comparing estimates of annual job turnover in San Francisco to estimates of total San Franciscans wishing to enter the workforce each year. There are specific problems with the estimates presented in the table; but, beyond this, the comparison is not a valid approach to assessing the potential employment benefits from downtown development.

The numbers in the table side-step the real issue of how job growth affects job turnover and how, together, these two factors contribute to job opportunities. The basic question is whether or not growth makes a difference, which requires consideration of the outcomes of scenarios with and without employment growth. In addition, as described above, it is not only the numbers, but the types of jobs that are important in considering the potential opportunities for San Franciscans seeking work downtown. This component of the "match" is not addressed in the commenter's table.

The comparison in the table implies that those who seek and benefit from job openings are only the unemployed. There are others who could benefit from increasing the supply of job opportunities in downtown San Francisco. A complete list includes the following groups:

- the unemployed
- school graduates
- other new entrants to the labor force (immigrants, women who have never worked)
- those returning to the labor force
- those already employed, who seek to: advance from entry-level or other positions, change careers, or change jobs for any number of reasons (better earnings, better hours, better locations, etc.)

The comparison in the table also ignores the important fact of the existence of a regional labor market. San Franciscans are not the only ones in the market for San Francisco jobs, and all San Franciscans do not only seek jobs in San Francisco. Therefore, it is not valid to expect the City's labor force to match with City jobs. Further, it cannot be concluded that a "mismatch" is the result of problems with the nature of downtown activity--problems that would only be exacerbated by growth.

Finally, the commenter is not quite correct in his use of the survey data and analysis done for the Downtown Plan EIR. The 20 percent factor used to estimate job opportunities each year due to turnover is used incorrectly. As identified in the text cited in the comment, the 20 percent factor refers to that part of the workforce that is newly employed downtown each year. Not all of these are newly employed downtown due to turnover of existing jobs; another reason is the

movement of businesses in and out of the downtown. Also, as noted above, "newly employed downtown" is not the same as "newly employed". Many of those newly employed downtown in any one year have simply changed jobs or moved with their jobs to this new location. Therefore, the estimate calculated by the commenter represents individuals newly employed downtown, not job openings (or job openings that are filled by persons previously unemployed).

Responses to Specific Requests for Data and Information

The comments conclude with specific questions. One group of questions is related to the job opportunities provided by the individual building projects, and whether these will go to unemployed San Franciscans. Throughout these Supplemental EIRs and these Responses to Comments, the individual projects are treated as increments of cumulative growth. Because all jobs in a new building do not necessarily represent additional downtown jobs or job openings, the specification of the skills required for jobs in any of the four projects analyzed in these Supplemental EIRs is irrelevant to the discussion of the employment benefits of cumulative downtown growth. (See also the response to comments in Section H, Residence Patterns and Housing, for an overview discussion of the cumulative perspective and how individual projects are treated in the cumulative analysis.)

Furthermore, the Planning Commission's findings of employment benefits have been based on the cumulative perspective, considering the overall contribution of downtown growth to increased employment opportunities. Any one project necessarily represents only a small part of the cumulative total.

It is possible to estimate a project's contribution, although the specifics of what actually occurs in the project are not relevant (as described above). The characteristics of the additional downtown jobs accommodated by the additional space added by the project and other cumulative development are relevant. These are represented by the Downtown Plan EIR forecasts of employment by occupation and wage/salary category. Table C&R I.1 shows the distributions of additional employment by occupation and wage/salary category for management/technical office and retail trade business activities--the types of activities associated with the increase in high-rise office space represented by these four projects. These are the appropriate distributions to use to describe the characteristics of the downtown job growth attributable to these projects. Lower wages (under \$15,000 per year in constant 1982 dollars) can be used as a proxy for entry-level positions which do not require extensive skills, training or experience. (See pp. IV.C.12-IV.C.19 and IV.C.50-IV.C.54 in the Downtown Plan EIR for more discussion of the overall composition of the downtown workforce and the changes between 1984 and 2000 under the Downtown Plan.)

With regard to the other side of the comparison (how these skills match the needs of San Francisco's unemployed workforce), there is less that can be estimated or documented. The City has no information on how many unemployed San Francisco residents possess the skills for these types of jobs and are seeking employment. There are no studies

TABLE C&R I.1: OCCUPATION AND WAGE/SALARY DISTRIBUTIONS OF ADDITIONAL MANAGEMENT/TECHNICAL OFFICE AND RETAIL TRADE JOBS, DOWNTOWN PLAN FORECAST, 1984-2000

<u>Occupations</u>	<u>Management/Technical Office</u>	<u>Retail Trade</u>
Professional/Technical	39.9%	1.0%
Managerial/Administrative	17.4	9.5
Clerical	33.8	3.7
Sales	0.8	47.5
Service	--	36.5
Crafts	3.7	0.7
Operatives	4.3	1.1
Other	0.1	--
TOTAL	100.0%	100.0%
<u>Wages and Salaries (1982 Dollars)</u>		
Less than \$12,000	7.2%	27.8%
\$12,000-14,999	10.8	37.8
\$15,000-24,999	36.2	33.5
\$25,000-49,999	31.6	0.9
\$50,000-74,999	10.0	--
\$75,000 and above	4.2	--
TOTAL	100.0%	100.0%

NOTE: These percentage distributions are derived from analysis done for the Downtown Plan EIR. The distributions describe the growth, or change, from 1984 through 2000. The basic information on occupational and wage/salary distributions is from the Downtown EIR Employer Survey. The estimates in this table are based on the Downtown Plan employment forecast, presented by occupation and wage/salary categories in Tables IV.C.17 and IV.C.18 in the Downtown Plan EIR. The estimates are for the two sub-groups of the totals presented in the Downtown Plan EIR that are relevant to the analysis for these four high-rise office building projects (management/technical office and retail trade).

SOURCE: Recht Hausrath & Associates

which track San Francisco's unemployed over time to see how they might eventually match with available jobs. Moreover, to fully understand how San Franciscans compete with others for San Francisco jobs would require a study of the regional labor market, its various sub-markets, as well as potential job opportunities (and the skills required for these) outside San Francisco.

The commenter also asks for documentation and verification of the employment benefits of cumulative downtown development. The quantitative analysis and forecasts prepared for the Downtown Plan EIR support the points made in this response regarding the roles of both job growth and turnover in providing job opportunities. The conclusions are also supported by national and regional data which indicate that, over time, unemployment is lower when job growth is higher, and that, among regions, high rates of job growth are associated with low rates of unemployment, and low rates of job growth are associated with high rates of unemployment.

Even if in depth, local quantitative studies of the types mentioned by the commenter existed, they would not necessarily be useful within the scope of the EIR evaluation. There is no simple, objective means to balance "negative environmental impacts" with employment benefits as suggested in the comment. It is impossible to add up the negative impacts and the positive benefits and make a value-free judgment based on comparison of the two. The EIR does not do this. Instead, the EIR identifies the negative environmental impacts and potential mitigation measures which the decision-makers can choose to implement. The general finding of employment benefits due to continued downtown growth, in a cumulative sense, is another factor in the decision-makers' consideration of project impacts.

The lack of a quantitative summation in the face of continued unemployment in San Francisco is not, however, a valid argument for no downtown growth. Even though the "negative environmental impacts" of downtown development may be experienced by some San Francisco residents who do not directly benefit in terms of employment downtown, other San Franciscans will benefit. It cannot be expected that all will.

J. Seismicity

COMMENTS

"I would like to incorporate John Elberling's extensive comments, just to be very specific, on his seismology that he gave, I believe it was last week....

"Do we have a moral obligation to the people of the City and the people of the region when you are looking at the seismicity of the area? Do we -- and two of these buildings, two of these four buildings are on clearly unstable land. Those two buildings are Spear/Main and 101 Mission. Block 3717 is bay fill. Tell us how many people are going to be on that block. That is one of the most dense blocks that you have approved -- virtually all of the projects have been approved in the past four years. It's incredibly dense and incredibly unsafe.

"But you really need to start putting in here plans for dealing with evacuation of people from seismically unsafe areas. Two of these buildings are clearly such buildings. One of them was another waterfront fill site, Montgomery/Washington. The only one that has kind of decent soil is One Sansome."

"What is happening as we are pushing new development into seismically unsafe areas, where even if the building stands, the roads are going to collapse ... If the only thing that is secure are the things that are within the four walls of those buildings and everything outside has building facades toppling down, or the streets are undermined because the soils are percolating, that is an unstable area. And it is silly to say that you are making people more safe by putting them in an unsafe area. (Sue Hestor, Transcript)

RESPONSE

The commenter incorporated by reference seismic comments made by John Elberling at the August 16, 1984, City Planning Commission public hearing on the Downtown Plan. No transcript has been prepared for that hearing, although a tape recording is available. The majority of those comments covered topics previously addressed in the Environmental Impact Report for the Downtown Plan (EE81.3). Volume III, Part 1, Responses, Section K, is hereby incorporated by reference, and is available for review at the Department's offices. Those responses to public comments address such issues as ground shaking in an earthquake; fire following an earthquake; tsunami and seiche flooding; subway flooding; worst case seismic situations; extent of fatalities, injuries and property damage from earthquakes; emergency services; and potential mitigation measures.

In addition, Mr. Elberling raised concerns about buildings cascading down hillsides and of inadequate care for persons needing hospitalization after an earthquake. The first issue was whether older, existing hazardous buildings on hillsides might collapse onto newer, more earthquake-resistant buildings downhill, and cause damage by a "domino" effect. The project addressed in this Supplemental EIR is within a relatively flat portion of

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Downtown, removed from any steep hill slopes. No such effect would occur. Thus this comment, which was made with respect to the Downtown Plan, is not relevant to the project in question.

The hospitalization issue offered a hypothesis that if there would be 43,300 injuries requiring hospitalization after a major earthquake, and 23,000 hospital beds in the 9-county Bay Area of which 10,600 were estimated to survive, about 32,000 injured persons would not find hospital beds and would likely die within 24 hours following an earthquake. It should be noted that the specific building proposal would increase the population within the Downtown area, which means more persons exposed to risk. However, at the same time it would provide a safer, more earthquake-resistant building than previously occupied the site.

The figures used by Mr. Elberling appear to come from a combination of sources. A National Oceanic and Atmospheric Administration report postulates a worst-case 4:30 p.m. San Andreas Fault magnitude 8.3 earthquake as causing 40,360 hospitalized injuries, and a Federal Emergency Management Agency report gives a comparable estimate of 44,000 hospitalized injuries. The figures are uncertain by a possible factor of two to three./1/ Another Federal Emergency Management Agency report indicates there are 23,112 beds in Bay Area general hospitals with 99 beds or more, and that 12,426 of those beds would be lost in a San Andreas Fault magnitude 8.3 earthquake, leaving 10,686 beds./2/

Injured persons are not expected to die from lack of treatment as suggested by Mr. Elberling. The City has an agreement with the California National Guard under the California Mutual Aid Program for helicopter support in the event of a catastrophic earthquake. A primary mission of this support would be medical evacuation to Bay Area and other hospitals. A military hospital from Southern California would relocate to Travis Air Force Base in such an emergency. Hospitalized injuries should not be construed as injuries requiring hospital beds. While there are no good studies on earthquake injuries, it is likely that many of these would be fractures and lacerations, which can be treated immediately without requiring a hospital bed. There are a large number of medical dispensaries and health centers which can provide first aid for such injuries, as well as the major general hospitals which were cited by Mr. Elberling. The Bay Area generally, and San Francisco in particular, has a high concentration of medical support facilities. The Mayor's Office of Emergency Services considers the City to be in good shape insofar as availability of medical treatment following a catastrophic earthquake is concerned./3/

The commenter requests data on the employee density of Assessor's Block 3717. Three new buildings, including two of the projects covered by the Court of Appeal decision, have been approved and built within the last 8 years, plus two additional buildings that have been approved by the City Planning Commission but are not yet completed; all are over 15 stories. If all five buildings are built and occupied the block would be considerably more dense than it had been. It would not necessarily be the

most dense in the downtown, considering some North of Market blocks containing much taller office buildings. Density alone, however, is not necessarily the key issue. First, if development did not occur on this particular block, it is likely that much or all of it would occur somewhere else in downtown. Thus, a similar number of people would be exposed to the potential seismic hazards in the downtown area, much of which is built on fill and subject to violent ground shaking. Second, the new buildings on this particular block must comply with City seismic safety requirements, and they replace, for the most part, less seismically sound buildings that could have subjected a smaller number of people to a greater hazard. Finally, this block is surrounded by relatively wide streets, providing for better emergency access in the event of an earthquake than is found in some North of Market blocks.

With regard to personal safety, buildings and roadways in seismically unsafe areas, and evacuation plans, those concerns are addressed in the Downtown Plan Environmental Impact Report as well. Volume III, Part I, Responses, in Section K.1 addresses falling materials from buildings. It states that the fall of cladding from new buildings is unlikely, although glazing is less secure. It states that older, non-reinforced masonry buildings are most susceptible to earthquake damage. Section K.2 discusses the access difficulties posed by streets that become impassable due to cracking from subsidence or liquefaction, or fallen debris. Section K.4 discusses worst-case seismic situations and extent of fatalities and injuries from an earthquake. It states that a worst-case situation would be one occurring in the afternoon peak hour for travel, and notes reports indicating that there may be 14,000 fatalities and 44,000 hospitalized injuries in the Bay Area.

Emergency plans of the City are discussed in Section K.5, which states that the Mayor's Office of Emergency Services works with building operators on private emergency response plans. It notes the City Planning Commission policy requiring such coordination as a condition of approval for new construction. Additionally, evacuation of buildings is not recommended during earthquakes, as people would be exposed to falling objects outside. After a major earthquake, it is anticipated that many people would stay within the buildings for shelter, and emergency supplies are recommended with that contingency in mind. However, there may be some circumstances, because of either fire or structural damage, when people must evacuate the building. This is less likely to occur for new buildings built under present codes than for buildings predating those codes. Title 19 of the State Administrative Code calls for all highrise buildings (more than 75 feet to the floor of the topmost story) to have a fire safety director and a pre-emergency plan which would be implemented when necessary. These plans must include earthquake preparedness. Proposed amendments to the San Francisco Fire Code would require that all fire safety directors be certified by the Fire Department, and that the building plan be approved by the Fire Marshal (The Fire Department has been offering a free Community College District course for fire safety directors for the past couple years, and would continue it)./4/

The 101 Mission office building is constructed on bay fill and was built on a mat foundation supported by piles driven to the bedrock approximately 170 feet in depth. The project, as built, meets the most current seismic safety building code standards.

Notes - Seismicity

- /1/ S.T. Algermissen, W.A. Rinehart, James Dewey, et al., A Study of Earthquake Losses in the San Francisco Bay Area: Data and Analyses. National Oceanic and Atmospheric Administration report prepared for the Office of Emergency Preparedness, 1974. An Assessment of the Consequences and Preparation for a Catastrophic California Earthquake: Findings of Actions Taken, Federal Emergency Management Agency, November 1980.
- /2/ Federal Earthquake Response and Assistance Plan, Federal Emergency Management Agency, Region IX, 1984.
- /3/ This paragraph is based upon a discussion with Philip S. Day, Jr., Director, Mayor's Office of Emergency Services, telephone communication, October 15, 1984.
- /4/ This paragraph is based upon discussions with Fire Marshal Joseph Medina and his staff, San Francisco Fire Department, telephone communications, November 14 and 15, 1984.

K. MITIGATION MEASURES

1. General

COMMENTS

The project sponsor requests that the following material be added to the first paragraph on page 12, following the word 'approval':

"The expanded cumulative impact analysis contained in this Supplemental EIR does not disclose any additional impacts which are not adequately mitigated by measures (based on the square footage of office space) previously imposed on this project and uniformly imposed on subsequent and future projects approved or to be approved by CPC. This is because the impacts of projects such as Spear/Main contribute to cumulative impacts on a roughly incremental basis and therefore contribute proportionately to the remedy of impacts which they create. The specific mitigation conditions imposed on 101 Mission are set forth in CPC Resolution 9123 (Appendix F) and include the following:"

(Robert A. Thompson, letter of 8/23/84.)

"The Summary should state that no additional mitigation is required to deal with the environmental effects disclosed by cumulative impact analysis utilizing a larger quantity of prospective future construction. The reason

for this conclusion is that the examination has disclosed no exponential effects, i.e., effects which cannot be mitigated by the imposition of a fixed quantum of mitigation condition applied on a per-square-foot basis.

"Such a statement would accurately summarize the Supplemental EIR. The Supplemental EIR reaches this conclusion on each of the effects examined (see, e.g., p. 86, [page 88 in the 101 Mission SEIR], but the conclusion is nowhere highlighted as the conclusion. Such a statement would greatly improve the Supplemental EIR as an informational document." (Howard N. Ellman, letter of 8/23/84.)

RESPONSE

A text change has been made on page 12 at the end of paragraph 1, which conveys a similar but slightly modified concept:

"The expanded cumulative impact analyses contained in this Supplemental EIR do not disclose new impacts not covered by mitigation measures previously imposed on the project and uniformly imposed on later projects approved by the City Planning Commission. The mitigation measures are generally imposed on a per-square-foot basis because an individual office building project contributes to the cumulative impacts in proportion to its contribution to additional employment in downtown, which is related to the space provided in the new building. No individual building contributes disproportionately--geometrically--to the overall cumulative. Therefore, insofar as mitigation measures have been imposed on a per-square-foot basis where possible (e.g., Transit Development Impact Fee, Office-Housing Production Program), the project will contribute its appropriate share to the overall measures which combine to reduce cumulative effects of increases in office space downtown. Where mitigation measures are not appropriately imposed by square footage, such as provision of a transportation broker to encourage transportation systems management, all projects similarly situated have had such a measure uniformly required, as has the project covered by this Supplemental EIR. The specific mitigation measures imposed on the project are shown in Appendix F, page A-32."

COMMENTS

The project sponsor requests that the following new paragraph be inserted at the end of subsection "Measures That Could Be Implemented by Public Agencies" on page 88:

"Since a substantial portion of the projects analyzed in this Supplemental EIR have yet to be approved, the ultimate mitigation measure is, of course, the ability of the City Planning Commission to limit the contribution of future projects to such cumulative impact by denying or limiting approvals for such projects. The ability to withhold approval of such future projects, based upon the

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environmental impacts and mitigation measures resulting from actual development, is clearly within the discretion granted to the Commission pursuant to the City Charter and Planning Code." (Robert A. Thompson, letter of 8/23/84.)

"Nothing in the mandate of the trial court or in the opinion of the Court of Appeal authorizes the City to mitigate transit by requiring portions of these buildings to remain vacant, while the City retains the power to require scaling down of the size or to prohibit construction altogether of projects not yet approved.

"...[I]t would be much easier for the City to mitigate the perceived future impact of future projects by reducing the amount of future construction to be built through the exercise of traditional regulatory power when those projects are proposed." (Howard N. Ellman, letter of 8/23/84.)

RESPONSE

The proposed paragraph cannot be inserted exactly as provided because it suggests that the City Planning Commission may, as a matter of policy, place a freeze or moratorium on future development downtown. Such a measure, however, requires the adoption of legislation by the Board of Supervisors, and is not within the sole power of the Commission. The Commission may disapprove projects on a case-by-case basis only if it found that the cumulative impacts from the individual project could not be reduced to an acceptable level and, on balance, it could not find overriding benefits. This possibility of disapproval is therefore limited and cannot be considered the comprehensive and complete solution to cumulative impacts. Further, the project could, in some senses, be considered one of the "future projects," a part of the group of "projects not yet approved," inasmuch as the Commission has been directed to reconsider mitigation measures in light of a revised cumulative analysis.

Based on this discussion, the text on page 90 is expanded to include the following as paragraph 2:

"Since a substantial portion of the office space analyzed in this Supplemental EIR and shown to contribute to cumulative impacts has yet to be approved, one mitigation measure available to the City is the ability of the City Planning Commission to limit the contribution of future projects to the cumulative impacts by denying or limiting approvals for such projects on a case-by-case basis. The ability to withhold approval of future projects, based upon environmental impacts and available mitigation measures resulting from development, is clearly within the discretion granted to the Commission."

COMMENT

"With regard to specific conditions that have been imposed on each project, please go down each condition that was imposed and each mitigation measure that was imposed and tell us how successful the mitigation measure has been, tell us how the condition has been met." (Sue Hestor, Transcript)

RESPONSE

The response to this comment has been limited to those conditions of approval included in CPC Resolution #9123 and mitigation measures described in the FEIR, which are intended to mitigate cumulative impacts on transportation, housing, air quality and energy, because cumulative impacts were ruled by the Court of Appeal to be inadequate and incomplete and are therefore the focus of the additional analysis provided in this EIR. Discussion of measures intended to mitigate project specific impacts would be outside the scope of this Supplemental EIR and the Peremptory Writ of Administrative Mandamus issued by the Superior Court.

The following table lists, in summary form, the mitigation measures and conditions of approval required of the project sponsor and intended to mitigate cumulative impacts, and a brief summary describing how each measure and condition has been acted upon to-date:

TABLE A

<u>MITIGATION MEASURE/CONDITION OF APPROVAL</u>	<u>SPONSOR ACTION</u>
<u>Transportation</u>	
1. The project sponsor shall contribute funds for maintaining and augmenting transportation service, in an amount appropriate to the demand created by the project.	The project sponsor has signed an agreement with Muni to pay a fee of approximately \$1 million. The Transit Development Impact Fee itself has been a subject of litigation, was upheld in Superior Court and has not yet been appealed. Also see response beginning page 148.
2. The project sponsor shall retain a transportation broker to administer programs such as on-site sale of BART tickets and Muni fast passes, employee carpool/vanpool systems.	The project managers have met with the Department of City Planning and have a memorandum of agreement which will not be fully implemented until the project is 80% leased. There is on-site sale of BART tickets and Muni fast passes at this time.

MITIGATION MEASURE/CONDITION OF APPROVAL

Within one year after completion, the project sponsor shall survey project occupants regarding trip generation and distribution, mode split, etc., or the sponsor can provide an in-lieu contribution to the City for a downtown-wide survey.

The project sponsor shall participate with the San Francisco Parking Authority in studying the feasibility of an intercept commuter parking facility and participate with other project sponsors or Muni in studies of the feasibility of a shuttle system between the project site and such a commuter parking facility.

Housing

1. The project sponsor shall cause the construction or rehabilitation of 180 housing units.

Energy

The project sponsor shall consider all appropriate energy conservation measures in building design and operations. Prior to issuance of the building permit, the sponsor shall submit to the Department of City Planning an assessment of the cost-effectiveness of various measures in the following checklist and its reasons for rejection of those measures not included in the project: passive solar design, thermal buffers, atriums/skylights to increase natural light, exterior shading devices, heat reflective glass, economizer cycle, alternatives to air conditioning, computer monitoring systems, alternate hot water systems and heat recovery systems.

SPONSOR ACTION

The project sponsor is waiting until the building is at least 90% occupied before administering the transportation survey.

In consultation with the Department of City Planning, the project sponsor has agreed to and paid an in-lieu payment fulfilling its agreement to participate in the parking survey.

The project sponsor met the requirement by committing up to \$500,000 to buy down mortgage rates of at least 60 Silverview Terrace Townhouses, each designated as "affordable units."

The project design includes passive solar design, and thermal buffers along the north side. The project provides exterior shading devices along the south side and heat reflective glass. Inclusion of natural ventilation was rejected for safety reasons. The project includes a computer monitoring system for HVAC, dual level lighting controls to permit lighting levels to be reduced by 50% during periods when higher illumination levels are not required, electric metering for each floor. The project did not include solar panels on the roof of the building for heating hot water. A heat recovery system is included in the project.

COMMENT

"I think one of the things you need to start considering is an abolition of PUD's as a mitigation measure for the cumulative effects, because they eliminate all of the rules." (Sue Hestor, Transcript.)

RESPONSE

The City Planning Commission must consider the project in light of the criteria contained in Planning Code §304 as well as those contained in §303 when making its determination on a request for authorization of a planned unit development. These criteria include environmental considerations. It is reasonable and appropriate to presume that the Commission has considered environmental issues in its PUD actions both because of the requirements of the Planning Code and because of the environmental review documents prepared for major projects in the downtown (whether or not those projects included requests for PUD authorization). It would not be appropriate to consider abolition of the planned unit development ordinance as a mitigation measure for this project even if it were appropriate as mitigation for cumulative impacts, since the project has already been constructed. Note that only one of the four projects covered by the Superior Court Writ received PUD authorization--the Montgomery/Washington project, for inclusion of residential uses under the 1981 interim controls which limited use of floor area bonuses to residential uses. Thus, elimination of the availability of PUD authorization for commercial uses would not have affected anything except the residential uses included in the Montgomery/Washington project.

2. Transportation

COMMENTS

"In summarizing the mitigation condition on page 12 the draft EIR states:

' . . . the City Planning Commission has no authority to require such a mitigation measure [a requirement that more than \$5.00 be paid].'

"Generally, a local governing body has the right to impose any proper regulatory condition or fee under its police power. A 'regulatory' condition or fee is a condition of approval or payment requirement imposed in connection with the approval of a specific project, calculated to alleviate public costs perceived to arise from that project. In California, local governing bodies have broad authority to impose such conditions and levy such fees -- and they have done so for years, on an ever-expanding foundation of judicial and legislative support.

"Under its discretionary review power, the City Planning Commission has for many years imposed conditions it believed necessary to regulate specific uses. In this instance, it may be true that the City Planning Commission,

acting by itself, has no power to impose an additional fee, but that is because the Commission and the Board of Supervisors have determined to address the question by means of an ordinance. The EIR is supposed to be an information document and the flat statement that the CPC lacks the legal power to require a mitigation measure in excess of \$5.00 per square foot, is a debatable legal proposition in this or any other context. . . . The validity of a regulatory fee in any amount (the \$5.00 Transit Impact Development Fee included) is dependent upon a showing that the fee is required to mitigate an impact. Without such a foundational showing, a regulatory fee cannot lawfully be imposed, not because the Planning Commission lacks the authority to impose such fees, but because the foundational conditions for the imposition of the particular fee are lacking.

"It is a matter of common knowledge that the transit impact development fee is tied up in litigation. The case (Russ Building Partnership v. City and County of San Francisco) has been tried and is now awaiting decision in the Superior Court. . . . [T]he plaintiff was primarily contesting not the authority of the Planning Commission or Board of Supervisors to impose a regulatory fee, but the existence of the conditions necessary to sustain such a fee, i.e., the existence of impact upon transit caused by downtown construction. If the City loses that case . . . it will be because the City has failed to prove in court the validity of the material upon which the transit impact analysis in the draft EIR is largely based.

"We have no way of knowing how the Russ Building litigation will come out or when it will be concluded. . . . The Supplemental EIR fails adequately to inform the public of the transportation impact issues when it contains no mention of litigation contesting the very existence of the conditions required to sustain imposition of a mitigation measure in any amount.

"Finally, the Draft EIR makes no reference to the condition imposed in connection with approval of the project or the refinement of that condition in the Court proceedings. The condition obligates the project sponsor to comply with any equitable funding mechanism the City lawfully adopts. The commitment to that condition was reaffirmed in open court, before Judge Weinstein. The project sponsor is not a member of the class of plaintiffs in Russ Building Partnership.

"The terms of the condition and its affirmation before Judge Weinstein have great significance here. Ordinarily, a regulatory fee cannot be imposed except as a condition upon or in conjunction with the grant of the regulatory approval. For example, the City could not now impose a retroactive regulatory fee upon construction of the Bank of America headquarters building. But by the terms of the condition in the site permit for the project and the manner in which the condition was reaffirmed before Judge Weinstein in open court, this project sponsor has waived its vested rights defense to any valid future enactment.

"We submit that the Draft EIR is incomplete as an informational document for failure to inform the public that this project will not gain the benefits of a

vested rights defense and will be liable for payment of transit regulatory fees duly adopted in the future pursuant to the permit condition. This is particularly significant when we are dealing with an impact primarily addressing the cumulative effects of the project in contemplation of a universe of potential future construction." (Howard N. Ellman, letter of 8/23/84.)

The project sponsor requests that the following sentence be deleted from the fourth paragraph on page 12: "However, the City Planning Commission has no authority to require such a mitigation measure." The project sponsor requests that the following sentence be added to the end of the fourth paragraph on page 12: "The reasons for not imposing such measures are set forth in the discussion of mitigation measures set forth in Chapter VI below."

The project sponsor requests the paragraph under Measures Included as Part of Project' on page 87 be revised as follows (revisions are underlined):

"Project Environmental Impact Reports prepared subsequent to the FEIR on the 101 Mission project, which included a complete cumulative analysis fully covering 17 million or more square feet of new office space, did not result in adoption of any new mitigation measures that would reduce cumulative transportation effects caused by an individual project. This is because the transit impact fee previously imposed on this project and imposed by ordinance on subsequent projects approved or to be approved by CPC is based on the incremental contribution of each project to total cumulative impact of development on transportation needs. The data in this Supplemental EIR, especially when compared to the data disclosed by the FEIR, supports the conclusion that individual project impacts contribute no more than incrementally to total cumulative impact. That conclusion underlies the per square foot remedial approach of the transit impact fee. Other measures that would further reduce cumulative city-wide and regional transportation effects could be implemented by public agencies but are not feasible or appropriate for individual project sponsors as noted below."

The project sponsor also requests the following revision to subhead '2.' on page 89 (revisions are underlined):

" . . . other City funding. Given the existence of the Transit Impact Fee ordinance, the City Planning Commission may not have jurisdiction to require such mitigation. CEQA does not confer on the decision maker independent authority to mitigate where separate legislative authority is not otherwise available. (Pub. Res. Code §21004.) In any event, the data set forth in this Supplemental EIR provides no basis for disagreement with the factual and policy determinations of the Board of Supervisors that the Transit Impact Development Fee constitutes effective and equitable mitigation of incremental project impacts and transit needs. Moreover, the condition contained in Resolution 9123 provides additional, essentially open-ended, flexibility by alternatively requiring the project sponsor to contribute funds "in an amount proportionate to the demand

created by the project, through an equitable funding mechanism to be developed by the City." (Robert A. Thompson, letter of 8/23/84.)

"Regarding transportation mitigation:

The Touche-Ross study identified and justified a Muni transit development fee of at least \$9.82 per gsf of office space. The full \$9.82 per gsf should be assessed against these projects (plus further increases, to the extent that the Downtown Plan EIR mode-shifting assumptions indicate greater transit system impacts). The issue of the Planning Commission's 'authority to require such a mitigation measure' is irrelevant. Project approvals should be withdrawn unless the developers are willing to fully mitigate their projects' impacts. They can voluntarily agree to the full fee, or can propose equivalent mitigation measures." (Carl Imperato, letter of 8/23/84.)

RESPONSE

The Board of Supervisors, the legislative body for the City and County of San Francisco, has the right to impose a regulatory fee as noted in the comment and has already chosen to address the issue of the impact of new office development on transit by adopting the Transit Development Impact Fee. This ordinance (Ordinance 224-81) imposes on the developer a fee of \$5.00 per square foot of new office development. Inasmuch as the Board has legislated the amount of the fee to be paid, the City Planning Commission has not been delegated the authority to impose a mitigation measure in excess of the stated \$5.00 per square foot without legislative amendment to the ordinance. Based on this point, the text on page 12 in the Summary has been clarified to read:

"However, the City Planning Commission has not been delegated the authority to require such a mitigation measure."

The text on page 89 in Chapter VI, Mitigation has been similarly clarified.

One of the bases of the Transit Development Impact Fee is that buildings contribute incrementally to the burden on local public transit by directly or indirectly providing space for new workers in downtown, some of whom will need to use transit to get to their jobs. Each building contributes proportionally to the number of new workers ultimately able to be employed (not necessarily in the new space but as a result of the new space), and thus each building developer is required to contribute proportionally to the transit service. This point, then, explains why impacts on local transit can be considered to be fully mitigated by measures imposed on the project covered by this Supplemental EIR. Even if cumulative impacts are shown in the SEIR to be larger than believed by the Commission when the project was

approved, the larger amount of development now shown in cumulative analyses is or will also be required to comply with the TDIF Ordinance and thus will contribute an appropriately and proportionally larger amount to the transit system, thus enabling it to serve the resulting larger ridership.

Imposition of this fee was challenged and was upheld by the Superior Court in Russ Building Partnership v. City and County of San Francisco (San Francisco County Superior Court, September 27, 1984.) The time for filing an appeal of this decision has not yet run and it is reasonable to expect such an appeal. However, as noted in the comments, the project conditions required that if the TDIF Ordinance was overturned in litigation, the project sponsor would be required to comply with another equitable funding mechanism that would replace the TDIF in mitigating transit impacts. The comment is correct in pointing out that a new regulatory fee adopted after project approval could not have been imposed without this additional condition. As the TDIF has been upheld in Superior Court, it may be that this portion of the condition may not need to be implemented, but its availability ensures proper and adequate mitigation.

Based on the above discussion, the text in Chapter VI, Mitigation Measures covering transit mitigation is expanded with the following:

"This is in part because the Transit Development Impact Fee (TDIF) imposed on this project by ordinance and as a condition of approval is based largely on the incremental contribution of each project to the total cumulative impact of development on the transit system. Because the TDIF imposes a fee on a per square foot basis, a larger amount of development would contribute a larger sum toward mitigation and the project would have contributed its proper share. The TDIF was challenged in a lawsuit (Russ Building Partnership v City and County of San Francisco) and was upheld in Superior Court (September 27, 1984). If this decision were to be overturned at the Court of Appeal, however, conditions already imposed on the project require that in the alternative the project sponsor will contribute to another equitable transit funding mechanism established by the City." (Added on page 87, after sentence 1 in ¶ 2).

COMMENTS

The project sponsor requests that the following material be inserted before the last sentence under 'Measures not Included as Part of the Project,' subhead '1.' (page 88):

"Given that the project accounts for 0.2% of the cumulative transit impact disclosed in this Supplemental EIR and that thus enforced vacancy of a portion of the project would have an imperceptible remedial effect on such total cumulative impact and in light of the

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fact that project economics have been predicated on occupancy of the entire structure, as previously approved by the City Planning Commission, the imposition of such an additional mitigation measure may well be viewed as an unfair and unreasonably extreme hardship on the project sponsor." (Robert A. Thompson, letter of 8/23/84.)

"We submit that the first proposed mitigation measure (p.12) is improper as a proposed measure; and the second contains statements which are not accurate and which do not adequately disclose the issues they address. These flaws first arise in the Summary, at page 12, but also affect the detailed discussion of mitigation measures at pages 85 through 88 [pp. 87 - 90 in the 101 Mission SEIR].

"The suggestion that a portion of the project could be required to remain vacant is simply not an appropriate suggestion as a mitigation measure in this case. The report discloses an impact on transit caused, in small part, by the instant project (which has already been built) in the context of future projects, a substantial portion of which have not yet even been approved. Nothing in the EIR suggests that the instant project and the projects which the City has lost the ability to control have created an unmitigatable problem for transit or that at some point in the foreseeable universe of anticipated construction, a point will be reached where mitigation measures must be compounded geometrically in order to mitigate cumulative effects.

"It makes no sense to suggest that a Court of Appeal opinion expressly refusing to order a halt to construction on hardship grounds, could nonetheless sanction a result which renders the finished improvements economically useless.

"We submit that the possibility of keeping a portion of the project vacant should not be suggested as a mitigation measure. If it is so mentioned, it should be dismissed because it clearly lies outside the ambit of the Court of Appeal opinion" (Howard N. Ellman, letter of 8/23/84.)

"Page 94 [page 88 in 101 Mission], there is a mitigation measure, Mitigation No. 1. I think this should be eliminated. My comments are for all four, because I looked through the other four, and most of these things seem to be found. This mitigation measure, I think, has to go. I don't know what it's in there for. It's not included as part of the project and would contribute to mitigation of cumulative transportation impacts. . . . That is hogwash. I mean, if you think that somebody is going to come in here with a brand-new building downtown and this Commission has approved that building and then this Commission is going to vote to leave a quarter, an eighth, or a room of it empty, that is absurd. And I don't know who put it in, but I don't think it should be there because I don't think it's real at all. Certainly from our history, I don't think it's too real. Even me." (Commissioner Bierman, Transcript)

RESPONSE

Other uses could be provided in portions of the building now designated for office that might provide economic return to the developer without contributing substantially to cumulative effects. Thus, the space now designated for office uses would not contain office uses but could contain others. (Note that a literal use of the proposed mitigation measure requiring that no activity go on in some portion of project office space could be looked upon as the equivalent of a reduction in the base Floor Area Ratio. If such a measure were deemed appropriate, it would be significantly more effective in reducing cumulative impacts if it were imposed on a broader scale such as is included in the Downtown Plan rather than on a building-by-building basis.) Furthermore, neither the Superior Court nor the Court of Appeal curtailed the discretion of the Planning Commission to determine appropriate mitigation measures in light of the revised cumulative analysis. However, overall the project contributes a very small portion to cumulative impacts and contributes to such impacts largely in proportion to the new space added to the downtown. Therefore, by virtue of mitigation measures, such as the OHPP and the TDIF, imposed on this and other similar projects to reduce cumulative impacts, the project has reduced its impacts substantially. It remains up to the Commission to determine whether or not this or other measures would be appropriate or necessary to impose based on the analyses in this Supplemental EIR.

The text on page 88 under "Measures Not included as Part of the Project," item 1 has been revised as follows:

1. A portion of the office space in the project could be required to either remain vacant or be put to some non-office use that would not cause a substantial contribution to cumulative impacts. This measure would reduce the number of new employees with jobs in downtown who are likely to contribute to cumulative transportation, air quality, energy and housing impacts. The reduction would not necessarily reduce the number of employees in direct proportion to any reduction in office space, since some firms that might have occupied the former "office" space could merely increase employee density. To the extent that fewer people would be employed downtown who would be likely to contribute to peak period transportation impacts, the cumulative transportation impacts would be less, although the project's share of total cumulative effects would be reduced by a lower proportion since the project and the total cumulative would both be reduced by the same amount. The project sponsor has rejected this measure because the project is already built and project economics were based on occupancy as originally designated. The City Planning Commission will determine whether or not to impose the measure as a condition of approval.

COMMENT

"Payments to public agencies or to employees (e.g., developer-subsidized transit passes, developer-sponsored park-and-ride facilities and vanpools, etc.) should be required, at a level which will ensure that Levels of Service on transportation corridors become no worse than present day Levels of Service."

"Other mitigation measures, as proposed in our Downtown Plan EIR comments, including transit mitigation fees for all impacted regional agencies, should also be required." (Letter, Carl Imperato)

RESPONSE

The above comments are similar to comments submitted on the Downtown Plan EIR. The full response is contained in Sections E.2.7.2, E.2.7.4, and E.6 of Volume III, Part 2, Summary of Comments and Responses, Downtown Plan EIR which contain discussion of transportation mitigation, transit fee districts, and cross-subsidization and financial equity. Regarding payments to offset travel, the Downtown Plan EIR states on p. C&R-E.68:

"To suggest that some equivalence exists between the cost of providing transportation improvements and the perceived costs of an individual's commute is highly misleading. The range of individual perception is sufficient to bias this approach. Commute "costs" may be seen as no more than bridge tolls and 15 minutes of delay at a toll plaza. Similarly, the person willing to drive alone through intense congestion may not be willing to ride in a packed BART car for any amount of subsidy."

Regarding transit mitigation fees, the Downtown Plan EIR states on p. C&R-E.53:

"Commenters have suggested that the development community bear a greater burden of regional transit cost. The commenters have indicated that the Transit Development Impact Fee or similar legislation be expanded to cover costs borne by regional carriers. As has been suggested earlier, regional transit carriers have been unable to develop a method of estimating regional marginal costs associated with Downtown service. This information would be critical to the establishment of a reasonable method of attributing costs and benefits if this were to be pursued. However, as the TDIF Ordinance is being challenged, no fundamental changes are anticipated to be proposed by City staff at this time. Further, the lack of City of San Francisco participation in the planning, marketing, and administration of SamTrans, CalTrans, BART, and AC Transit make it probable that this form of income transfer or cross-subsidization would not have the broad support of San Francisco's elected officials."

3. Housing

COMMENT

The project sponsor requests the following to be added to C. Housing, page 89 of the EIR:

"As a condition of project approval, the project sponsor was required to cause the construction and/or rehabilitation of 180 housing units in San Francisco (see page A-33 of the Supplemental EIR). Information regarding the project sponsor's fulfillment of this condition has been added following the last page of Appendix E of the Supplement." (Robert A. Thompson, letter dated August 23, 1984)

"Two of the projects have a specific housing mitigation. It would seem reasonable to me that they would discuss, in terms of at least the impacts, the varying impacts of the One Sansome and 101 Mission projects, which have a specified housing unit count requirement under the old OHPP . . . I would like to have seen some discussion, other than the reproduction of the resolutions saying that they will in very general terms comply with the Office Housing Production Program. I think it would have been helpful to the public and to you as decision-makers to see what kind of progress has been made over the years." (Calvin Welch, Transcript)

"The description of housing mitigation does not state that the project has complied with the OHPP guidelines applicable when the permit was issued.

The draft EIR should state that the housing impact of the project has been fully mitigated." (Howard N. Ellman, letter of August 23, 1984)

RESPONSE

The following is added after the first sentence under C. Housing, page 89 of the DEIR:

"As a condition of project approval, the project sponsor was required to cause the construction and/or rehabilitation of 180 housing units in San Francisco (see page A-33 of the Draft Supplemental EIR). In January 1984, the Department of City Planning granted approval to the project sponsor to meet the requirement of 180 housing credits by committing up to \$500,000 to buy-down the mortgage rates of at least 60 Silver View Terrace Townhouses, each designated as "affordable units".

The revision of the cumulative analysis in these four Supplemental EIRs raises the issue of whether further project mitigation should be imposed. The analysis of cumulative housing impacts in the Supplemental EIRs identifies greater total impacts than were identified in the original project EIRs because the analysis extends further into the future and includes a larger amount of future downtown growth. Although total impacts are larger, the contribution of each project to the total is not substantially different. In other words, housing impacts do not change

materially on a per-employee or per square foot basis when a larger quantity of prospective future development is analyzed. Therefore, project mitigation on an incremental basis does not change as a result of the revised cumulative impact analysis. The analysis of impacts does not indicate that additional mitigation would be required of individual projects to deal with the housing market effects of a larger amount of growth extending further into the future.

Additional material on compliance with OHPP is provided in Appendix E of the Supplemental EIR. That material is shown in this Comments and Responses documents in Section IV., Additional Appendix Material.

COMMENT

The project sponsor requests the following revision (revision underlined):

"The paragraph under '3. Housing' on page 13:

'A requirement to provide housing in San Francisco was included in project approval conditions, thus reducing or eliminating project-specific contributions to cumulative housing impacts in San Francisco.'" (Robert A. Thompson, letter of August 23, 1984)

RESPONSE

The revision has been made as requested.

L. STAFF-INITIATED TEXT CHANGES

The following eight changes (on the next four pages) should be made in Chapter V. Environmental Impact, Section E. Residence Patterns and Housing of the Draft Supplemental EIR. These changes should be made to clarify and expand the description of impacts in accordance with the expanded section in the Downtown Plan EIR Summary of Comments and Responses. This section in the Supplemental EIR will still represent a summary of the discussion in the Downtown Plan EIR. The full text of the Downtown Plan EIR as expanded in the Downtown Plan EIR Summary of Comments and Responses (see pp. C&R-D.81 - C&R-D.94) is hereby incorporated by reference pursuant to State CEQA Guidelines.

On p. 78, the following paragraph should be added after the first paragraph:

"The future residence patterns described below are quantified and provide the basis for the qualitative conclusions about the housing market implications of downtown growth described in the following subsection. Because the residence patterns can be quantified for both cumulative development and for the increment of growth represented by the project, this allows an estimate of the project's contribution to the impacts of cumulative growth."

On p. 78, the following three sentences should be added at the end of the last paragraph:

"The percentage of jobs held by City residents is used more often, primarily for transportation analysis. The percentage of City residents who work in downtown San Francisco is used less often. This latter perspective is a more direct measure of the role of downtown jobs in employing San Francisco's residents."

On p. 80, the first paragraph should be revised to read (additions are underlined; wording omitted is in brackets):

"This approach uses data from the recent downtown employee surveys (as presented in the 1983 Transportation Guidelines) to estimate the residence patterns of future employees in the buildings on the list. Unlike the Downtown Plan forecast approach, this approach incorporates no changes over time in either employment densities or residence patterns. It assumes that current average conditions (reflected in the recent surveys [Transportation Guidelines]) would continue throughout the build-out period for the list."

On p. 81, the four full paragraphs should be deleted, and on p. 82, the first two paragraphs should be deleted. These should be replaced with the following:

"There is a complicated series of interactions between employment growth and the housing market impacts of that growth. Throughout this process, adaptations or changes in conditions can be identified, but, cannot be solely attributed to employment growth."

"With continued employment growth there would be additional demand for San Francisco housing from people with strong preferences for living in the City and with the ability and willingness to pay for housing. This demand would be added to an otherwise competitive market with relatively high prices/rents."

"At the same time, additional housing would be produced in San Francisco. There would be more additional supply relative to additional demand in the future than in the past. The primary reason is that housing market factors together with local policies and redevelopment programs are expected to support a larger addition of housing in the City than occurred in the past two decades. Nevertheless, San Francisco is unlikely to accommodate all of the households that would otherwise choose to live in the City. This is explained by the City's role as the employment center for a large region, by the limited land availability in the City, and by the higher costs of producing housing in San Francisco.

"Downtown employment and employment growth will continue to be among the factors supporting a competitive housing market. It is unlikely that changes in housing demand due to downtown growth alone would be the cause of significant changes in prices and rents. Future housing prices and rents will depend on other factors besides downtown employment growth (such as interest rates and local land use policies and development costs throughout the region).

"Although not all of the additional downtown workers would live in San Francisco, some would choose to do so. Many of the additional workers would be willing to pay higher prices for City housing to save on the time and cost of commuting from a more outlying location. Many of the additional workers preferring to live in San Francisco would be able to pay more for housing than some current residents.

"Those workers who choose to live in the City would compete for the existing supply of housing. Those with greater financial resources would support the production of housing by the private market. Those with less financial resources would add to the competition for the stock of housing available at prices and rents below those needed for new construction. To the extent that prices/rents remain below this threshold, the supply of these types of units would not be expanded. Instead, prices/rents of existing units would be somewhat higher, occupancies would be higher (more people per unit because children live at home longer, more people live together, etc., and/or lower vacancies), and there would be pressures to upgrade the existing stock.

"Competitive market pressures would be greatest for rental and for-sale housing priced below average, particularly for units below the threshold prices/rents for new housing production. Increased competition in an already competitive market, the relatively high threshold for new construction, and the large pool of consumers (not just downtown workers) with preferences for the older housing stock in San Francisco, all would result in more housing consumers seeking these types of units. The purchase and upgrading of lower-cost older housing is the first step in the process of neighborhood change known as gentrification. Often, existing lower-income residents can be "priced out" of their housing in the upgrading process.

"Higher prices and rents, particularly for the relatively lower cost housing in older neighborhoods, would have various implications over time, for those in the housing market as well as for other existing residents. Some people would decide not to move into the City and some existing residents would move out of the City for more acceptable housing elsewhere. Many individuals would continue to live in San Francisco and pay higher prices/rents for the same City housing. Still others, those unable or unwilling to pay more, would accept City housing which does not fully meet their preferences or needs. And finally, owners of existing units would benefit to the extent that their housing appreciates. It is not possible to quantify how many households would be affected in each of these ways.

"This scenario of future housing market conditions in San Francisco implies that housing affordability will continue to be a problem for many of the City's households. The additional demand due to downtown employment growth would add to a future housing market situation in which many households, particularly those with incomes below the threshold needed to support new production, are expected to be paying a larger percentage of their incomes for housing or accepting less housing services than in the past.

"Generally, those households with fewer financial resources available to pay for housing would make the most sacrifices in adapting to more competitive market conditions. They have less ability to compete for housing and fewer housing options. San Francisco currently has and will continue to attract a large number of persons that will be faced with these difficulties in securing housing. They include renters, younger persons, those holding entry level jobs, the elderly and others on fixed incomes, newly-arrived immigrants as well as other poor and unemployed persons."

The last paragraph on p. 84 and the first paragraph on p. 85 should be deleted and replaced with the following:

"Because housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the downtown worker percentages of the region's employed population in each area would not be large indicates that downtown workers would not require much larger shares of the region's housing in the future than they do now. In other words, a housing stock consistent with local policies could accommodate both future downtown workers and future workers elsewhere in the region.

"As part of total regional employment growth in the future, increases in downtown employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a competitive regional housing market with relatively high housing prices and rents. By itself, downtown growth would make only a small difference in the region's housing market outside of San Francisco. If downtown growth did not occur and all other employment growth and housing market factors remained as forecast,

it is unlikely that the Bay Area's future housing market would be very different from what would otherwise occur with downtown growth.

"All other things being equal, regional employment growth would mean higher prices and rents for housing than would otherwise be the case in the future. It would also mean lower housing services (less acceptable housing conditions at the same, or higher, price) for some of the region's households. How much difference (higher prices/rents or lower services) depends on other housing market factors besides employment growth (interest rates, land use policies, other demand factors, etc.). It also depends on the amount of employment growth. Downtown employment growth alone would have less impact than total regional growth.

"The housing impacts of employment growth are not uniform throughout the region. Generally, there will be more effects in nearby communities than in those further from the location of job growth. The main reason is that, all other things being equal, households have a preference for residential locations closer to places of work and can pay more for housing at a closer location because they are not paying the higher transportation costs they would otherwise pay at a more distant place."

To footnote /1/ on p. 85, the following sentence should be added:

"Also see Downtown Plan EIR Summary of Comments and Responses, pp. C&R-D.82 - C&R-D.83 (which is hereby incorporated by reference pursuant to State CEQA Guidelines) for a discussion of the role of the residence patterns forecasts in analyzing future housing market conditions."

The second sentence in footnote /4/ on p. 85 should be revised to read (additions are underlined):

"Downtown survey data (C-3 District and South of Market/Folsom) presented in the Transportation Guidelines were used to estimate employment and residence patterns for projects on the March 10, 1984 list for the greater downtown area."

Footnote /6/ on p. 85 should be revised to read (additions are underlined; wording omitted is in brackets):

"/6/ This subsection presents a summary of the discussion in the Downtown Plan [Draft] EIR as expanded in the Downtown Plan EIR Summary of Comments and Responses (see pp. C&R-83 - C&R-D.94) [(see pp. IV.D.77-IV.D.82 and pp. I.1-I.8)], which is hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150."

BART has revised its peak-hour Load Factor upward from 1.3 to 1.5. The discussion of BART's existing and forecast Level of Service should be revised to reflect this change in assumptions. The following paragraph on p. 57 of the DSEIR has been revised as follows to remove the indications of BART's Load Factor at 1.3 (this change results in a change in the conclusions reached regarding BART's ability to meet its service goals; it originates in the Downtown Plan EIR Comments and Responses, Section C&R-E.2.3, pp. C&R-E.46-47, incorporated by reference):

"It is important to note that the Five-Year Plan improvements for the transit systems are designed both to provide for future demand increases, and to improve service levels from existing conditions. For new vehicles to expand system capacity rather than represent replacement on a one-to-one basis, operating revenues would similarly need to be increased. During the year 2000 peak hour, Muni service to the Southwest would exceed the desirable passengers per seat ratio of 1.25./8/ Although the transit demand in the corridor in excess of the desirable loading would be able to be accommodated under crowded conditions and thus would not be excess demand (that is, not beyond capacity), demand in excess of the desirable loading would mean that additional transit service (beyond that assumed to occur by 2000) would need to be provided to allow transit operations in the corridor to meet the goal set by Muni. To meet the goal of 1.25 passengers per seat in the peak hour, Muni would have to increase service by about 14% in the Southwest corridor over the amount of service assumed to occur in 2000."

IV. ADDITIONAL APPENDIX MATERIAL

A. Appendix E: Residence Patterns and Housing

The following material, found on pages 254-256 of this document, is added to Appendix E of the DSEIR following page A-31.

Housing Credits
100 Spear - 180 housing credits

Lincoln Mission Spear has satisfied its housing credits through a Mortgage Buy-Down Program between Lincoln and Paul C. Peterson Building Developer for the Silverview Terraces Housing development.

Under the terms of the agreement, Lincoln has committed up to \$500,000 to buy-down the mortgage rates of at least 60 Silverview Terrace Townhouses. In order to qualify for a loan, the household's income must meet the following guideline -- moderate income household's income, adjusted for size, must be between 80% and 120% of the San Francisco SMSA median income. 57 two bedroom townhouses and 3 three bedroom townhouses will be designated as "affordable units". All such "affordable units" will be conveyed by a deed which restricts the future resale of the units to moderate income purchasers as herein defined for a twenty year period.

To qualify for approval of housing credits under the Office/Housing Production Program (OHPP), Lincoln and Peterson had to satisfy the requirements set forth above with respect to the provisions of "affordable housing". Further, the housing plan, described above had to meet the requirements set forth in Part I B (4) and Part I C of the OHPP Guidelines.

In the event Peterson and Lincoln fail to sell the 60 units to qualified applicants the unused portion of the funds will be turned over to the appropriate City agency for use in housing as final satisfaction for the approval of the above 180 credits.

B. Appendix G: Comparison of FEIR and SEIR

The following new Appendix G has been added to the SEIR beginning on page A-38:

APPENDIX G

Comparison of Cumulative Impacts: Final EIR and Supplemental EIR

Cumulative analysis in the project's Final EIR was based upon approximately eight million square feet of office space approved or under construction as of October 1980. Transportation impacts were assessed using Guidelines for Environmental Evaluation -Transportation Impacts, prepared by the San Francisco Department of City Planning, July 1980 (revised October 1980). Muni transit impacts were based on estimates of patronage and load factors most likely to occur in 1983.

Cumulative analysis in this Supplemental EIR is based upon approximately 19 million square feet of net new downtown office space. This includes projects as of March 10, 1984 that are under formal review by the Department of City Planning, approved or under construction. The process used to develop the cumulative list and the list of projects appears in Appendix B, pages A-6 through A-15. This list contains the most recent cumulative development projections prepared by the Department.

For convenience this appendix provides, where possible, comparison of the results reached in the Supplemental EIRs with similar results reached in the Final EIR. This comparison is included for results which have been reported both in tabular form and in text. Explanation is also provided where, due to changes in methodology and/or timeframe, it is not possible to compare the tabular results of the SEIR with those included in the FEIR.

The following tables, included in the Supplemental EIR, contain information on results of the impact analysis which is comparable to results identified in the FEIR:

Table 4: Peak Pedestrian Volumes and Flow Regimen

	1984		1984 + CUMULATIVE LIST			2000			FEIR 1983 PROJECTED PED. FLOWS	
	<u>p/f/m</u>	<u>Flow Regimen</u>	<u>p/f/m</u>	<u>Flow Regimen</u>	<u>Project Percent</u>	<u>p/f/m</u>	<u>Flow Regimen</u>	<u>Project Percent</u>	<u>p/f/m</u>	<u>Flow Regimen*</u>
<u>NOON PEAK</u>										
Mission Sidewalk (north side)	2.6	Impeded	3.1	Impeded	7%	3.6	Impeded	6%	2.6	Impeded
Mission Sidewalk (south side)	1.2	Unimpeded	1.5	Unimpeded	13%	1.8	Unimpeded	11%	1.3	Unimpeded
Spear Sidewalk (northwest corner)	1.1	Unimpeded	1.3	Unimpeded	8%	1.5	Unimpeded	7%	1.1	Unimpeded
Mission Crosswalk	1.3	Unimpeded	1.6	Unimpeded	13%	1.9	Unimpeded	11%	1.4	Unimpeded
<u>P.M. PEAK</u>										
Mission Sidewalk (south side)	0.3	Open	0.4	Open	25%	0.5	Unimpeded	20%	0.4	Open
Spear Sidewalk (southwest corner)	1.4	Unimpeded	2.0	Unimpeded	20%	2.2	Impeded	18%	1.7	Unimpeded
Mission Crosswalk	1.1	Unimpeded	1.9	Unimpeded	37%	2.1	Impeded	33%	1.7	Unimpeded
Spear Crosswalk	0.4	Open	0.6	Unimpeded	33%	0.7	Unimpeded	29%	0.6	Unimpeded

* Flow regimen was not reported in the FEIR but are provided here for comparison purposes.

In Table 4, the projections included in the FEIR for 1983, are comparable to the 1984 + Cumulative List projections from the SEIR since both suggest a full buildout of the respective cumulative lists. The SEIR predicts equivalent or greater pedestrian flows at both the noon and p.m. peak hours, but in no case is the increase enough to degrade the projected flow regimen. In other words, results presented in the two documents are relatively similar where they cover similar locations.

Table 6: Projected Peak-Hour Intersection Volume-to-Capacity Ratios (V/C) and Levels of Service (LOS)

SEIR Intersection	1984		DOWNTOWN PLAN 2000		1984 + CUMULATIVE LIST	
	V/C	LOS	V/C	LOS	V/C	LOS
Mission & Beale Sts.	0.92	E	1.05	F	1.10	F

FEIR						
						Service Level in 1983 without 101 Mission
						<u>Existing (1981)</u>
Mission/Beale (p.m. peak)		C				D/E

The FEIR stated that there would be no further degradation in the Mission/Beale intersection (or any other intersections) with the 101 Mission project.

For Table 6, only one intersection is comparable since a different set of intersections were analyzed in the FEIR and the SEIR. For the Mission/Beale intersection, the SEIR predicted greater impacts, showing the intersection degrading to a level of service "F", as compared to the FEIR, which showed the intersection degrading to a level of service "D/E". This further degrading of the level of service at the intersection could be attributed to the increased cumulative development identified in both the Cumulative List and the Downtown Plan EIR forecast.

Table 7: Projected Daily Pollutant Emissions

Pollutant	SEIR			FEIR	
	Project	Bay Area		Project	Bay Area
	1990	1990	2000	1983	1983
Carbon Monoxide	0.96	1,952	1,883	0.64	1,500
Hydrocarbons	0.08	428	428	0.06	950
Nitrogen Oxides	.010	558	610	0.07	800
Sulfur Oxides	.001	194	233	N/A	N/A
Particulates	.014	562	649	N/A	N/A

N/A - Not analyzed in the FEIR.

In the above case the comparable results are the projections for the Bay Area in 1983 (FEIR) and 1990 (SEIR). The SEIR projects increased carbon monoxide levels and decreased levels of hydrocarbons and nitrogen oxides. Projected concentrations of sulfur oxides and particulates cannot be compared since the FEIR did not analyze potential impacts on these pollutants.

Noncomparable information

The following tables, included in the SEIR, provide information that is not comparable to information provided, if any, in the FEIR, or they provide information on base data which does not identify actual results of the impact analysis:

Table 1: Projected Outbound Travel Demand By Mode From The Project (person trip ends)

This table provides base data generated by trip generation and modal split rates applied to the project. The information in this table, while used for determining the project's share of total cumulative travel demand, is not relevant to results of the cumulative impact analysis included in the SEIR, but is an intermediate step in the analysis of the project's contribution to the cumulative impacts.

Table 2:

Comparison of List Method and Economic Forecast Method - Outbound P.M. Peak-Hour Cumulative Travel Demand For The C-3 District (person trip ends)

This table provides background information on the number of trips on each transit and transportation mode generated by cumulative downtown development. The table is not included in this comparative analysis since it contains base data rather than projections of the project's contribution to cumulative development, and thus does not describe cumulative impacts of the project.

Table 3: Outbound Regional Transit Demand and Level of Service

This table provides information about changes in level of service on transit carriers due to cumulative development. No comparison with the FEIR is included here since the FEIR did not provide similar information for Muni corridors or other carriers. The FEIR discussion of the impacts on Muni levels of service was done on a line-by-line basis for downtown serving lines, a method which is no longer used and is not comparable to the data included in the SEIR.

Table 5: Outbound Regional Auto Demand

This table provides information on the project contribution to future demand on the Regional Auto Corridors, a type of analysis which was not part of the methodology used in the transportation analysis included in the FEIR, and thus no comparison is possible.

Table 8: Projected Worst-Case Curbside Carbon Monoxide Concentrations

It is not possible to compare the results of this table due to the fact that different locations were measured in the SEIR as compared to the FEIR. In the FEIR, locations along Beale, Howard and Spear Streets were measured for one- and eight-hour CO concentrations. In the SEIR, the intersections of Mission and Beale, Clay and Battery, and First and Harrison were measured for the same thing. Since intersections carry the traffic load of two streets, the CO concentrations along an individual street will invariably be lower than those at an intersection of that street with another.

Table 9: Regional Perspective on Residence Patterns

Information included in this table was not available at the time of the FEIR and thus not available for comparison purposes.

Comparable Conclusions in Text

In the 101 Mission FEIR and DSEIR, conclusions have been reached which are not reported in tabular form. In order to provide the fullest comparison of results of the FEIR and SEIR, the following table summarizes the comparable textual conclusions of the two documents:

TABLE G-1
COMPARISON OF TEXTUAL CONCLUSIONS BETWEEN 101 MISSION FEIR AND SEIR

101 Mission FEIR

Transportation

"The additional peak hour patronage (Muni) due to the proposed project was added to the 1983 patronage projections on a proportional basis... the project would increase the 1983 load factors by not more than 1%."

"...the quality of pedestrian flow would remain unchanged from the existing characteristics. However, the addition of other pedestrian activity due to the 150 Spear Street project and proposed development in the area could cause pedestrian flow conditions to degrade to a "constrained" condition."

Housing

Approximately 40% (347 employees) would be expected to live in San Francisco, the balance 60%, or 521 employees, would commute to the City."

101 Mission SEIR

"The project travel would represent about 0.3% of the total travel on transit in the 1984-plus-the-Cumulative-List condition."

"Under the list-based analysis, conditions on the Main St. and Howard St. sidewalks and crosswalks would remain unchanged from the current ranges of Impeded and Unimpeded during the noon peak with the exception that the Main Street crosswalk would shift from Open to Unimpeded. During the p.m. peak the Main St. sidewalk, both north and south of the project, would shift from Unimpeded to Impeded."

"Sidewalk operations in the year 2000 would shift from Unimpeded to Impeded... the Main St. sidewalk south of the project and the Main St. crosswalk would shift from an Open to Unimpeded condition during the noon peak."

"The percentage (C-3 district jobs held by San Franciscans) would decline from 55.5 percent in 1984 to 50.2 percent in 2000. Those changes would be the result of cumulative development and employment growth in the C-3 district between 1984 and 2000."*

*The Downtown Plan EIR used ABAG Forecasts of residence patterns in the year 2000. Thus, this analysis shows that residence patterns are not drastically altered by any one project.

December 6, 1984

ADDENDUM

DRAFT SUMMARY OF COMMENTS AND RESPONSES

EE79.236 101 MISSION

The following changes should be made in the Draft Summary of Comments and Responses document:

Page 93, line 2, change "Spear and Main" to "101 Mission".

Appendix E:

Letters delineating housing mitigation for the 101 Mission and Spear/Main projects were reversed in the additions to Appendix E in the Comments and Responses documents. They will be placed in the proper places in the Final EIRs.

Appendix G:

The following material should be added to the Appendix G material on pages 259-261 of the Comments and Responses document:

Page 257, paragraph 2 of Appendix G, last line add "or textual".

Page 259, second full paragraph regarding Table 6, add after first sentence:

"The locations nearest the project were analyzed in the FEIR because they were expected to be the intersections with the highest concentration of project-related traffic. However, in many cases, those intersections fail to give a clear picture of the cumulative traffic impacts, whereas the intersections near freeway ramps are the sites of the highest concentration of cumulative p.m. peak traffic. Freeway-related intersections have thus been used for cumulative traffic analyses for San Francisco EIRs for several years. The freeway ramps most likely to include some measurable amount of project-related traffic were chosen for cumulative analyses in this Supplemental EIR."

Page 260, paragraph 1, is revised to read:

"The following tables, included in the SEIR, provide information that is not comparable to information provided, if any, in the FEIR, due to changes and improvements made in the methodology used to analyze impacts. In addition, some tables provide base data which cannot be compared to FEIR data because new, updated, baseline information was obtained after certification of the FEIR; this new base data was used for both analysis methods in this SEIR in order to provide the most up-to-date cumulative analyses."

Page 260, paragraph 2 regarding Table 1 of the SEIR, sentence 2 is replaced with the following:

"FEIR Table 6 provides similar trip generation information. However, it is not comparable to SEIR Table 1 because the model split used in the SEIR has been refined and improved to include more categories than were used in the FEIR. In addition, it was not possible to separate travel coming into the building from trips leaving the building in the method that was used to project travel for the FEIR; the SEIR covers out-bound trips only, as those are the trips contributing to the cumulative p.m. peak transportation impacts."

Page 260, paragraph 3 regarding Table 2, last line is replaced with the following:

"...development. The information provided is an intermediate step in the cumulative transportation analysis and thus is not key to a comparison of the ultimate impacts disclosed to the Commission in the FEIR as compared to the SEIR. Comparable information is not found in the FEIR because Table 2 in the SEIR shows travel demand from the C-3 District, based on survey information obtained for that part of the Downtown in 1982, which was not available when the cumulative analysis was prepared for the FEIR in 1979-80. As there is no way to separate the travel from C-3 District projects on the FEIR cumulative list from the total cumulative travel assumed in the FEIR, no tabular comparison of Table 2 is included in this analysis."

Page 260, regarding Table 3, add to the end of paragraph 4:

"A corridor analysis method was adopted for assessment of impacts on Muni about 1-1/2 years ago as it was determined that it was somewhat misleading to assign transit trips rather arbitrarily to one bus line rather than another traveling in the same corridor (e.g., from downtown to the Richmond District) when it is known that travelers will make daily decisions on which line to use based on a variety of factors and that Muni also shifts facilities to accommodate changing demands in the main corridors. Survey and other data provide enough information to statistically support assigning riders by general area of residence (northeast, southwest areas of the City) but do not support as precise an assignment as is implied when a line-by-line analysis method is used."

Page 260, paragraph 6 regarding Table 8, add after sentence 1:

"There are two reasons for the changes in locations measured--first, a shift to measuring intersections rather than streets in the middle of blocks, and second, use of intersections showing larger cumulative impacts."

Page 260, add to the end of paragraph 6:

"As described above, the traffic analysis in the SEIR studied intersections that would show the highest concentrations of cumulative impacts including the project. These intersections were then used of the curbside CO analyses as well, in order to show the

impacts of the greatest amount of traffic where a measurable portion of the project-related traffic could be found."

Page 261, paragraph 1, revise the second sentence to read:

"In order to provide the fullest comparison of results of the cumulative analyses in the FEIR and SEIR, the following table summarizes the textual conclusions on cumulative impacts issues that were not included in tables in the two documents."

Page 261, revise the title of Table G-1 to read:

COMPARISON OF TEXTUAL CONCLUSIONS ON CUMULATIVE ISSUES BETWEEN
101 MISSION FEIR AND SEIR

In addition to these revisions and additions, typographical and clerical errors found in the DEIR will be corrected in producing the FEIR.

BS/jml/3010B

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● XI. CERTIFICATION MOTION

File No. EE79.236
101 Mission Street

SAN FRANCISCO

CITY PLANNING COMMISSION

MOTION NO. 10180

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR AN OFFICE BUILDING LOCATED AT 101 MISSION STREET.

MOVED, that the San Francisco City Planning Commission ("Commission") hereby CERTIFIES the Final Supplemental Environmental Impact Report ("FSEIR") identified as EE79.236 "101 Mission Office Building," based upon the following findings:

1. The Commission, by Resolution No. 9122 adopted on August 27, 1981, found that the Final Environmental Impact Report ("FEIR") prepared in connection with EE79.236 was adequate, accurate and objective and certified its completion in compliance with the California Environmental Quality Act ("CEQA") (Cal. Pub. Res. Code §21000 et seq.), the State CEQA Guidelines (14 Cal. Admin. Code §15000 et seq.) and Chapter 31 of the San Francisco Administrative Code ("Chapter 31").
2. The Board of Permit Appeals, by Decision and Order released on May 27, 1982, denied an appeal of the site permit with regard to the 101 Mission office building.
3. The California Court of Appeal, by opinion filed January 24, 1984, ordered that the Superior Court issue its writ of mandate requiring that the FEIR be supplemented by expanding the data base used for analysis of incremental impacts of the proposed project when added to other closely related past, present and reasonably foreseeable probable future projects.
4. On May 10, 1984 the Superior Court of California for the City and County of San Francisco issued its Peremptory Writ of Administrative Mandamus (the "Writ") to the City and County of San Francisco, the Commission and the Board of Permit Appeals requiring preparation of a Supplemental Environmental Impact Report ("SEIR") as directed in the Writ.
5. In compliance with the Writ, a Draft Supplemental Environmental Impact Report ("DSEIR"), dated July 23, 1984, was prepared by the Department of City Planning ("Department").
6. In preparing the DSEIR, the Department fulfilled all procedural requirements of CEQA, the State CEQA Guidelines and Chapter 31 by the following procedures:
 - (a) On July 23, 1984, the Department published the Draft Supplemental Environmental Impact Report ("DSEIR") and provided notice to the public in a newspaper of general circulation of the availability of the DSEIR for public review and comment and of the date and time of the Commission's public hearing on the DSEIR. This notice was mailed to the Department's list of persons requesting such notice.

- (b) Notices of availability of the DSEIR and of the date and time of the public hearing were posted near the project site by Department staff on July 23, 1984.
 - (c) On July 23, 1984, copies of the DSEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DSEIR, to adjacent property owners, and to other government agencies.
 - (d) A 30-day public review period was provided from July 23 to August 23, 1984.
- 7. The Commission held a duly advertised public hearing on the DSEIR on August 23, 1984, at which opportunity was given for, and public comment was received on, the DSEIR. The period for receipt of written comments ended August 23, 1984.
 - 8. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 30-day public review period, prepared additions to the text of the DSEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DSEIR. This material was presented in a "Draft Summary of Comments and Responses," published on November 26, 1984, was distributed to the Commission and to all parties who commented on the DSEIR, and was available to others upon request at Department offices.
 - 9. The FSEIR has been prepared by the Department, based upon the DSEIR and consultations and comments received during the review process, additional information that became available, and the Summary of Comments and Responses, all as required by law.
 - 10. Project environmental impact report files have been made available for review by the Commission and the public, and these files are part of the record before the Commission.
 - 11. On December 6, 1984, the Commission reviewed the FSEIR and found that the contents of said report and the procedures through which it was prepared, publicized and reviewed all comply with the provisions of CEQA, the State CEQA Guidelines, Chapter 31, and the Writ.
 - 12. The Commission finds that the FSEIR considers and evaluates cumulative impacts of the project described therein in conjunction with the projects directed to be considered by the Court of Appeal and the Writ, and reevaluates mitigation measures and alternatives in the light of such consideration and evaluation of impacts.
 - 13. The Commission finds that the FSEIR concerning EE79.236 "101 Mission Street" is adequate, accurate and objective, and that the Summary of Comments and Responses contains no significant revisions to the DSEIR, and does hereby CERTIFY THE COMPLETION of said FSEIR as being in compliance with CEQA, the State CEQA Guidelines, Chapter 31 and the Writ.

CITY PLANNING COMMISSION

File No. EE79.236
101 Mission Street
Motion No. 10180
Page No. 3

14. The Commission in certifying the completion of said FSEIR does hereby find that the project to be presented to the Commission for reconsideration has had and will have a significant effect on the environment in that it has or will contribute to cumulative impacts in the following respects: an increase in transit ridership and pedestrian and vehicular traffic and parking, violations of total suspended particulate and localized carbon monoxide air quality standards, and housing impacts, all as produced by this and other closely related and reasonably foreseeable probable future projects.

I hereby certify that the foregoing motion was adopted by the City Planning Commission on December 6, 1984.

Lee Woods, Jr.
Secretary

AYES: Commissioners Bierman, Karasick, Nakashima, Rosenblatt, Wright

NOES: None

ABSENT: Klein, Salazar

ADOPTED: December 6, 1984

BS/jml/2954S/1/438A



APPENDIX A

PEREMPTORY WRIT OF ADMINISTRATIVE MANDAMUS

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SUPERIOR COURT OF CALIFORNIA
COUNTY OF SAN FRANCISCO

SAN FRANCISCANS FOR REASONABLE GROWTH,)
Petitioner,)
v.)
CITY AND COUNTY OF SAN FRANCISCO,)
et al.,)
Respondents.)

LINCOLN/MISSION/SPEAR ASSOCIATES,)

Real Party in Interest.)

No. 791326

PEREMPTORY WRIT
OF ADMINISTRATIVE
MANDAMUS

1 People of the State of California

2 To the City and County of San Francisco, the City
3 Planning Commission, and the Board of Permit Appeals,
4 Respondents:

5 YOU ARE HEREBY COMMANDED TO vacate your certification
6 of completion of the Final Environmental Impact Report ("FEIR")
7 for the 101 Mission Street Project, EE No. 79.236, and to
8 prepare and publish, in compliance with the procedures set forth
9 in the California Environmental Quality Act (Pub. Res. Code §
10 21,000 et seq.) ("CEQA") and the state Guidelines (14 Cal.
11 Admin. Code § 15,000 et seq.) relating to supplements to
12 environmental impact reports, a Supplemental Environmental
13 Impact Report ("SEIR") on the project described in the FEIR.
14 Said SEIR shall supplement the analysis in the FEIR of the
15 cumulative impacts of the subject project together with other
16 closely related past, present and reasonably foreseeable
17 probable future projects. Your analysis of "probable future
18 projects" shall include, to the extent reasonably feasible,
19 proposed but as yet unbuilt office projects in downtown San
20 Francisco which meet any of the following criteria:

- 21 (1) Projects which you currently have under
22 environmental review, which shall include projects
23 for which an application has been submitted for
24 environmental review and the file for which
25 application has not been closed or become inactive;
26 (2) Projects for which a negative declaration has
27 been issued;
28 (3) Projects which hold a statutory exemption;

- 1 (4) Projects which hold a categorical exemption;
2 (5) Projects falling under the jurisdiction of other
3 governmental agencies.

4 YOU ARE FURTHER COMMANDED, upon completion of
5 preparation of said SEIR to review it for completeness and
6 accuracy, and if you find it to be complete and accurate, so to
7 certify in compliance with CEQA.

8 YOU ARE FURTHER COMMANDED, upon such certification of
9 the SEIR, to reconsider your resolution approving the project
10 therein described, including mitigation measures and
11 alternatives, in light of new information in the SEIR, and to
12 affirm, modify or vacate that resolution in accordance with the
13 discretion vested in you by law.

14 YOU ARE FURTHER COMMANDED, to issue no final
15 certificate of occupancy on said project until further order of
16 this Court.

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1 YOU ARE FURTHER COMMANDED, to make and file a return
2 to this Writ on or before September 21, 1984, setting forth what
3 you have done to comply. The Court will retain jurisdiction of
4 this cause for the purpose of awarding costs, considering any
5 application for attorney's fees, and for all other purposes
6 pending entry of final judgment herein:
7

8 MAY 10 1984

DONALD DICKINSON

Clerk

Laura C. Levy
LAURA C. LEVY

Deputy



12 LET THE FOREGOING WRIT ISSUE.

MAY 9 1984

13 DATED: _____
14

15 DANIEL H. WEINSTEIN
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17 Daniel H. Weinstein
18 Judge of the Superior Court
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APPENDIX B CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO

Process Used to Develop the Cumulative List of Office Projects In Downtown San Francisco:

The attached list of office and retail projects was prepared as a background document for a land use-based method of analyzing cumulative impacts. A land use-based cumulative analysis is one of the two methods of cumulative analyses suggested by the State CEQA Guidelines (Section 15130(b)(1)(A)), whereby a list of related projects is used to determine the combined effects of the whole and to determine the contribution of a proposed office or retail project to the overall cumulative effect. This is only one method of determining cumulative impacts. The other method of determining cumulative impacts is an analysis based on estimates of total employment projected for the area. This latter method is permitted by State Guidelines Section 15130(b)(1)(B) if the employment projections are based on an appropriate planning document.

The attached cumulative list is an expanded version of past lists and includes all office and large retail projects proposed, approved, under construction and recently completed in the greater downtown area which have active applications in the Department of City Planning. This list is appropriate for use only in a land-use based analyses of the cumulative impacts of office/retail projects in the greater downtown.

Relevant Redevelopment Agency projects have been included in the list. The Rincon Point/South Beach Redevelopment Area includes four projects: 77,000 sq. ft. of office space at 181 Steuart Street, 200,000 sq. ft. of office space on First Street, and a 30,000-sq.-ft. office building, all in at least preliminary negotiation stages between the Agency and potential developers; and 453,000 sq. ft. of office space proposed by the U.S. Postal Service at the Rincon Annex site (Source: San Francisco Redevelopment Agency). The listing for the Yerba Buena Gardens in the YBC Redevelopment Area includes 1.2 million sq. ft. of office space in the Olympia and York proposal (Source: San Francisco Redevelopment Agency). Other office buildings in the YBC and applicable parts of the Western Addition Redevelopment Areas are listed under individual building names or addresses, based on information obtained from regular contact with redevelopment agency staff. Other jurisdictions are also contacted when the cumulative list is updated: the new 293,000-sq.-ft. State Office Building under construction at Van Ness and McAllister is included; no Federal office space is proposed in downtown San Francisco in the near future other than that at the Rincon Annex

Post Office site in the Rincon Point Redevelopment Area, (Source: John Scales, General Services Administration, telephone conversation, April 11, 1984).

Hotel projects have not been included in the list because hotel uses have different peaking characteristics from office buildings and generally do not significantly affect peak-hour traffic or transit and therefore also do not contribute to effects such as maximum production of air pollutants (see 135 Main Final Supplemental EIR, EE81.61, certified November 30, 1982, p. 150). Residential projects have not been included because residential uses are extremely limited in the study area and generally are unrelated to office uses. Residential travel in the downtown usually takes place in the contra-commute direction during peak hours and thus does not contribute to cumulative traffic or transit congestion. In addition, office trips in the p.m. peak period are assumed to be made by workers traveling to their residences. Trip generation calculated for residential uses includes persons returning to their homes after work in the p.m. peak. Inclusion in the cumulative analysis of residential uses in downtown San Francisco would double count project-generated travel: once when employees left their office building and again when they arrived at their residence if they lived in the downtown area.

Approximately 1.3 million sq. ft. of office space is proposed for locations outside the greater downtown area. All but two of these projects (San Francisco Executive Park just east of U.S. 101 near the southern border of San Francisco, proposed for about 1.1 million sq. ft., and St. Mary's Medical Office Building on Shrader at Fulton, proposed to be about 90,000 sq. ft.) are under 10,000 sq. ft. These projects are not included on the cumulative list because their impacts do not accumulate measurably with office space in the downtown area. Although the Executive Park proposal would contribute to the auto traffic on U.S. 101, the critical analysis points for p.m. peak-period cumulative downtown traffic on U.S. 101 are the freeway entrances near downtown, the approaches to the Bay Bridge, and the Alemany interchange which restricts southbound U.S. 101 traffic on the p.m. peak period. Executive Park traffic would not contribute measurably to peak demands on freeway entrances near downtown or peak direction at peak period impacts on the Alemany interchange and is factored in as part of the traffic approaching the Bay Bridge before cumulative downtown development is added. (Executive Park Subsequent DEIR, EE81.197E, September 9, 1983. Note that an EIR was prepared in 1976 for a project on this site; following permits for four of the proposed office buildings, the developer made major changes in the project that necessitated a new EIR which is now in progress.)

The Department's Master Project Log contains listings for projects which are no longer active for various reasons, such as no action by project sponsor in over one year, application withdrawn by sponsor, or project proposal revised to non-office or non-retail uses (examples of these projects include 272 Sutter, approximately 65,000 sq. ft., withdrawn by sponsor; 2nd and Harrison, 49,000 sq. ft., application revised from office space to parking lot). Some of these files have not been formally closed due to other higher staff priorities; however, the projects are not included on the cumulative list when staff assigned have concluded that the office project has been abandoned or withdrawn or the scope or nature of the proposal is so uncertain as to be not reasonably foreseeable.

TABLE B-1: PROJECTS COMPLETED BEFORE 1984

Assessor's Block		Case No.	Project Name	Office		Retail		Date Occu- pied
				(Gross Sq. Ft.)		(Gross Sq. Ft.)		
				Total New Constr.	Net New Constr.	Total New Constr.	Net New Constr.	
Completed But Not In Base Case Analysis								
106	81.415ED	1299 Sansome	41,000	41,000	3,500	3,500	1983	
141	81.151EV	100 Broadway	13,000	13,000			1983	
163	EE81.1	901 Montgomery	63,000	63,000	18,800	18,800	1983	
164	81.631D	847 Sansome	23,750	23,750			1983	
164	81.251D	936 Montgomery	21,500	11,500			1983	
196		736 Montgomery	40,000	40,000			1983	
196	CU79.49	Pacific Lumber Co.	92,000	92,000			1983	
206	81.165D	401 Washington/Battery	13,200	13,200	1,800	1,800	1983	
228	81.610ED	569 Sacramento (C)	19,000	19,000			1983	
237	DR80.6	353 Sacramento (Daon)	277,000	251,000	8,300	-2,000	1983	
240	DR80.16	550 Kearny (Addition)	71,400	71,400			1983	
263	CU79.12	101 California	1,265,000	1,257,000	24,700	-14,300	1983	
287	81.550D	Sloane Building (C)	125,300	125,300	30,000	30,000	1983	
292	DR79.13	Crocker National Bank	676,000	495,000	86,000	54,000	1983	
312	EE79.370	50 Grant	90,000	90,000			1983	
313	EE77.257	Nieman Marcus			143,000	128,000	1982	
351	DR79.133	10 U.N. Plaza	92,050	92,050			1983	
738	SFRA	One Flynn Center	25,000	25,000			1983	
762	SFRA	Opera Plaza (M)	50,000	50,000			1983	
3518	81.483V	291 10th St.	25,700	25,700		-25,700	1983	
3702	EE81.25	1155 Market/8th	138,700	138,700	8,800	8,800	1983	
3708	DR80.34	25 Jessie/Ecker Square	111,000	111,000			1983	
3709	DR80.36	Five Fremont Center	791,200	722,200	35,000	17,300	1983	
3712	DR79.11	Federal Reserve	640,000	640,000			1983	
3717	EE78.413	150 Spear	330,000	330,000			1983	
3718	DR79.12	Pacific Gateway	540,000	540,000	7,500	7,500	1983	
3724	SFRA	Yerba Buena West	335,000	335,000			1983	
3732	81.548DE	466 Clementina (C)	15,150	15,150			1983	
3735	SFRA	Convention Plaza	339,000	339,000			1983	
3735	SFRA	Planter's Hotel (C)	20,000	20,000			1983	
3752	EE77-220	Office Bldg. (YBC SB-1)	11,000	11,000			1983	
3763	81.287V	490 2nd at Bryant (C)	40,000	40,000			1983	
3763	81.381	480 2nd at Stillman (C)	35,000	35,000			1983	
3763	32.38EVD	400 2nd & Harrison	71,500	49,500			1983	
3776	81.693EV	539 Bryant/Zoe	63,000	63,000			1983	
TOTAL			6,504,450	6,188,450	367,400	227,700		

* (C) - Conversion (generally industrial and/or warehouse to office)

(M) - Mixed Use (office/residential/commercial)

SOURCE: Department of City Planning.

In EIRs prepared during the latter half of 1983, the list used for cumulative analyses included a section labeled Completed But Not In Base Case. As of the end of 1983, that list totaled over 6 million sq. ft. of office space and about 225,000 sq. ft. of retail space (see Table B-1, Projects Completed Before 1984, page A-4 of this document). These projects were included on earlier lists even though they were built and fully or partially occupied because some of the baseline data (measurements of the existing situation) for some transportation systems as collected in mid-1982 and thus could not include the effects of these projects. The baseline has recently been updated to reflect 1984 for use in the Downtown Plan Draft EIR. Projects completed before 1984 are included in this updated baseline data. Using 1984 as the existing baseline situation means that projects completed by the end of 1983 should be omitted from the list of projects used for cumulative analysis in order to avoid counting effects of the projects twice. Because some of the baseline data previously used was collected more recently than mid-1982, lists based cumulative analyses overestimated some reported impacts by measuring the effects of office buildings as part of the baseline existing situation and by including the same office building in the calculations of future cumulative impacts. For example, PG&E is already serving office buildings completed in 1982 and 1983; including those buildings in calculations of future cumulative energy demand would count them twice. Therefore, for some part of the cumulative analyses, omitting projects completed by 1983 will provide more realistic predictions of future conditions.

- The Department is aware of proposals by Southern Pacific Land Co. to develop property near China Basin. This area and the proposals by Southern Pacific have been called "Mission Bay." An application for environmental review was filed for the project over one year ago but was withdrawn in early 1984 and no new application has been filed. Since withdrawal of this application, members of the San Francisco Board of Supervisors have proposed that the City purchase all or portions of the property; this proposal was later dropped. In July, 1984, Southern Pacific announced major revisions in its proposal reducing the scope of the development proposal. No new applications have been filed. Both the original project and the July 1984 proposal would require environmental analyses and Zoning Map and Comprehensive Plan amendments, and BCDC and possibly U.S. Army Corps of Engineers permits in addition to City approvals before any building could begin. With no application pending, and with the possibility of further revisions by the developer before submittal of any application, the Mission Bay project remains too speculative to include in any cumulative analyses.

The Department of City Planning is in the process of preparing plans and environmental analyses for several areas in or near the downtown. Because these plans involve only proposals for zoning and other land use controls, they are not properly part of any cumulative list. Although analyses for these plans sometimes predict amounts of office space that could be built in the area being studied, the predictions are for purposes of assessing impacts of the plans and in no way reflect proposed future development.

Use of the Department's list for estimating cumulative impacts builds in certain limitations. It assumes, for example, that all proposals will be built at essentially the size proposed and that all buildings once built will be fully occupied. It is important to note that the cumulative list has not been adjusted to reflect temporary limitations on growth impacts by the City's actions to establish a Special Use District in the South of Market and a moratorium on new office and hotel space over 50,000 square feet. Nor has any adjustment been made to account for reduced building potential as proposed in the Downtown Plan (base FAR of 14:1 reduced to 10:1). Thus, the total square footages on the list of projects under formal review may be overestimated, and impacts based on the square footages may also be overestimated, if some buildings are not built, not fully occupied or reduced in size.

TABLE B-2: CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO

DOWNTOWN OFFICE PROJECTS UNDER FORMAL REVIEW
March 10, 1984

Block	Case No.	Project Name	Office (Gross Sq. Ft.)		Retail (Gross Sq. Ft.)	
			Total New Constr.	Net New Constr.	Total New Constr.	Net New Constr.
59	83.177E	1620 Montgomery	82,270	45,390		
110	82.129E	1000 Front	139,000	139,000	3,000	3,000
112	83.447E	1100 Sansome	55,000	48,000		
113	82.418E	1171 Sansome	30,000	30,000		
113	8264603	220 Green	3,520	3,520		
130	83.612C	1558 Powell	2,500	2,500		
136	83.476V	962 Battery	15,000	15,000		
192	83.412ED	1055 Stockton			81,500	66,500
194	83.128E	732 Washington	17,500	17,500	11,240	11,240
195	82.643E	660 Washington	3,938	3,938		
227	82.463E	505 Montgomery	327,300	300,670	12,100	-4,775
228	83.422E	560 Sacramento	48,000	31,000		
229	83.222EC	Embarcadero West	575,000	382,000	9,000	9,000
236	82.511E	222 Front	40,250	33,400	3,250	-0-
258	82.421E	Pine/Kearny	186,000	186,000	6,750	6,750
266	33.420ED	98 Battery	169,000	106,500		
267	83.421ED	225 Pine	134,000	134,000		
287	83.91ED	237 Kearny/Bush	99,600	87,800	6,100	2,400
288	83.148E	665 Bush (M)	12,400	2,600		-2,700
309	83.333E	212 Stockton	32,220	15,885	21,700	16,200
326	8312187	156 Ellis	3,200	3,200		
327	82.445E	Stockton/O'Farrell	43,300	25,750	57,950	28,000
331	81.448E	Mixed Use Devel.	50,000	50,000	70,000	49,000
336	83.21ECV	440 Turk	25,000	8,150		
642	83.218V	1699 Van Ness	20,000	20,000		
814	81.540E	101 Hayes	132,000	132,000	6,000	6,000
3526	83.475V	530-550 9th	42,300	42,300		
3702	83.196E	1169 Mkt, Trinity	820,000	805,000	40,000	40,000
3704	83.404	901 Mkt Penney's	145,500	126,000	80,000	80,000
3705	83.314E	5th and Market	880,000	778,000	120,000	40,000
3707	SFRA	YBC Office Bldg	593,000	593,000		
3708	81.297ED	562 Mission	405,000	265,000	10,000	10,000
3708	83.75E	49 Stevenson	169,600	136,900	9,800	-2,900
3721	83.331E	100 First @ Mission	348,920	342,000		
3721	83.40EZD	524 Howard	279,000	279,000	15,000	15,000
3735	83.313E	35 Hawthorne	47,400	47,400	2,900	2,900

(continued on next page)

TABLE B-2

DOWNTOWN OFFICE PROJECTS UNDER FORMAL REVIEW (cont.)

Block	Case No.	Project Name	Office (Gross Sq. Ft.)		Retail (Gross Sq. Ft.)	
			Total New Constr.	Net New Constr.	Total New Constr.	Net New Constr.
3736	83.311E	299 2nd @ Folsom	206,000	171,000	10,000	10,000
3744	84.41E	Hills Bros	635,000	535,000	40,000	40,000
3749	83.464EV	50 Guy Place	17,500	17,500		
3752	83.310E	837 Folsom	200,000	200,000		
3769	83.213EV	59 Harrison	113,500	49,750		
3776	83.451E	501 Bryant	67,000	35,000	14,000	4,000
3778	83.547E	775 Bryant	27,890	27,890	3,675	3,675
3786	82.33E	655 5th/Townsend	126,250	126,250		
3786	83.272EV	525 Brannan	13,500	13,500		
3788	82.352EV	640 2nd	39,100	37,400		
3789	82.31EV	615 2nd/Brannan (C)	90,000	70,000	9,300	9,300
3794	83.545V	139 Townsend	51,200	50,000		
3923	81.491EVF	1550 Bryant	80,600	49,600		
_____ SFRA _____		Yerba Buena Gardens (buildings not listed individually)	1,340,000	1,340,000		
_____ SFRA _____		Rincon Point/S.Beach	760,000	760,000		
			=====	=====	=====	=====
TOTAL UNDER FORMAL REVIEW			9,744,260	8,721,295	643,265	442,590

* (C) - Conversion (generally industrial and/or warehouse to office)
 (M) - Mixed Use (office/residential/commercial)

TABLE B-2 (cont.)

MAJOR DOWNTOWN OFFICE PROJECTS; APPROVED, NOT YET UNDER CONSTRUCTION
March 10, 1984

Block	Case No.	Project Name	Office (Gross Sq. Ft.)		Retail (Gross Sq. Ft.)	
			Total	Net	Total	Net
			New Constr.	New Constr.	New Constr.	New Constr.
65	82.168V	990 Columbus	12,000	12,000		
112	81.258	Ice House (C)	209,000	209,000		
164	81.583D	50 Osgood Place	22,500	22,500	9,100	9,100
176	83.229E	801 Montgomery	31,800	31,800	6,200	6,200
176	82.368E	900 Kearny	25,000	25,000	5,000	5,000
225	81.403ED	814 Stockton	3,500	3,500	3,300	3,300
265	81.195ED	388 Market at Pine (M)	234,500	85,500	10,000	-8,500
268	81.422D	250 Montgomery at Pine	105,700	65,700	8,000	8,000
271	83.13E	582 Bush	18,100	18,100	800	800
288	81.687ED	222 Kearny/Sutter	150,000	49,950	10,000	-8,400
294	82.87D	44 Campton Place	7,600	7,600		
642	82.224VEC	1750 California	82,525	82,525		
669	81.667ED	1361 Bush	13,000	13,000		
671	82.24V	1581 Bush (C)	16,000	16,000		
690	SFRA	Post/Van Ness	88,000	88,000		
716	81.581ED	Polk/O'Farrell (M)	61,600	61,600	22,400	22,400
818	83.94EV	583-591 Hayes (C)	4,900	4,900		
3504	82.137V	44 Gough (C)	30,000	30,000		
3702	81.549ED	1145 Market	137,500	108,500	8,000	8,000
3705	80.315	Apparel Mart III	332,400	332,400		
3707	81.492ED	90 New Montgomery	124,300	124,300	3,350	3,350
3707	81.245DA	New Montgomery Pl.	227,500	209,700	2,200	-3,900
3708	81.493ED	71 Stevenson	324,600	324,600	6,200	6,200
3709	81.113ED	Central Plaza	353,100	136,300	17,400	17,400
3717	81.183E	123 Mission	342,800	342,800		
3724	81.102E	Holland Ct. (C)	27,850	27,850		
3729	82.86D	774 Tehama	5,800	5,800		
3733	EE81.2	868 Folsom	65,000	65,000		
3733	82.29E	832 Folsom	50,000	50,000		
3735	SFRA	75 Hawthorne (C)	61,900	61,900		
3738	DR80.5	315 Howard	294,000	294,000	3,200	3,200
3749	EE81.18	Marathon - 2nd & Folsom	686,700	686,700	35,300	35,300
3750	82.241E	600 Harrison	228,000	228,000	10,000	10,000
3750	82.77V	642 Harrison (C)	54,400	45,900		
3764	82.591E	Second St. Sq. (C)*	333,000	263,000	25,000	25,000
3775	81.147V	338-340 Brannan (C)	36,000	36,000		
3776	EE81.59	Welsh Commons (M)	55,600	55,600	12,000	12,000
3788	81.296Z	690 2nd/Townsend (C)	16,600	16,600	16,000	16,000
3789	81.552EV	625 2nd/Townsend (C)	157,000	157,000		
3794	81.569EV	123 Townsend	104,000	49,500		
3794		155 Townsend	19,000	19,000		
3803	81.244D	China Basin Expansion	196,000	196,000		
9900	81.63E	Ferry Building Rehab	309,500	97,500	163,500	124,000
TOTAL APPROVED			5,658,275	4,760,625	376,950	294,450

TABLE B-2 (cont.)

MAJOR DOWNTOWN OFFICE PROJECTS UNDER CONSTRUCTION

March 10, 1984

Block	Case No.	Project Name	Office (Gross Sq. Ft.)		Retail (Gross Sq. Ft.)	
			Total	Net	Total	Net
			New Constr.	New Constr.	New Constr.	New Constr.
58	82.234E	Roundhouse (C)	45,000	45,000	3,000	3,000
136	81.243E	955 Front/55 Green	50,000	50,000		
143	81.353ED	1000 Montgomery (C)	39,000	39,000		
146	83.99EC	644 Broadway	42,800	42,800		
161	DR80.191	Mirawa Center	36,000	36,000	30,650	30,650
166	DR80.15	750 Battery	105,400	105,400	12,800	12,800
166	CU81.7	222 Pacific at Front (C)	142,000	142,000		
167	SFRA	Golden Gateway III	103,000	103,000		
176	81.673EACV	Columbus/Pacific(Savoy)	49,000	49,000	22,000	22,000
208	81.104EDC	Washington/Montgomery (M)	235,000	233,300	4,000	-1,200
227	EE80.296	Bank of Canton	230,500	177,500		-800
239	DR80.1	456 Montgomery	160,550	160,550	24,250	24,250
240	81.705ED	580 California/Kearny	329,500	260,000	6,500	6,500
261	81.249ECQ	345 California (M)	640,000	466,500	15,500	15,500
262	81.206D	130 Battery	41,000	41,000		
270	81.175ED	466 Bush	86,700	86,700	7,800	2,200
271	81.517	453 Grant	27,500	27,500	6,200	6,200
288	81.461EC	333 Bush (Campeau)(M)	498,400	458,100	20,900	20,900
288	DR 80.24	101 Montgomery	264,000	234,000	4,900	-14,100
289	81.308D	One Sansome	603,000	603,000	7,000	7,000
311	82.120D	S.F. Federal	246,800	218,850	1,600	-9,440
351	DR79.24	Mardikian/1170 Market	40,000	40,000		
641	82.200CV	1735 Franklin (C)	8,600	8,600		
672	SFRA	Wealth Investments	104,500	104,500		
743	SFRA	Van Ness/Turk (Vanguard)	85,000	85,000		
767	STATE	State Office Building	293,300	293,300		
816	82.212ED	300-350 Gough (M/C)	16,000	16,000		
834	82.603E	25 Van Ness (C)	101,800	42,800	36,400	36,400
3512	82.14	Van Ness Plaza	170,000	170,000	6,000	6,000
3715	82.16EC	121 Steuart	33,200	33,200		
3715		141 Steuart	80,000	80,000		
3717	EE79.236	101 Mission	219,350	219,350		
3717	EE80.349	Spear/Main (160 Spear)	279,000	279,000	7,600	7,600
3717	82.82D	135 Main	260,000	260,000	4,000	4,000
3722	81.417ED	144 Second at Minna	30,000	30,000		
3741	82.203C	201 Spear	229,000	229,000	5,200	5,200
3787	81.306	252 Townsend at Lusk	61,000	61,000		
TOTAL UNDER CONSTRUCTION			5,985,300	5,530,950	226,300	184,660
GRAND TOTAL ALL PROJECTS			21,388,430	19,012,870	1,246,515	921,700

TABLE B-3

MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1983.
(GROSS SQUARE FEET)

<u>Year</u>	<u>Total Gr. Square Ft. Completed</u>	<u>5-Year Total</u>	<u>5-Year Annual Average</u>	<u>Cumulative Total All Office Bldgs Completed</u>	<u>Cumulative Total Downtown Office Buildings</u>
<u>Pre-1960</u>		(Net)a	(Net)a	28,145,000(b)	24,175,000(c)
1960	1,183,000				
1961	270,000				
1962	--				
1963	--				
1964	1,413,000				
		2,866,00	573,200		
<u>1960-1964</u>		<u>(2,580,000)</u>	<u>(516,000)</u>	<u>30,725,000</u>	<u>26,754,000</u>
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
<u>1965-1969</u>		<u>(7,541,000)</u>	<u>(1,508,000)</u>	<u>38,266,000</u>	<u>34,295,000</u>
1970	1,853,000				
1971	---				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
<u>1970-1974</u>		<u>(7,753,000)</u>	<u>(1,550,000)</u>	<u>46,019,000</u>	<u>42,048,000</u>
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	---				
1979	2,532,000				
		8,157,000	1,631,400		
<u>1975-1979</u>		<u>(7,341,000)</u>	<u>(1,468,000)</u>	<u>53,360,000</u>	<u>49,389,000</u>
1980	1,284,000				
1981	3,029,000				
1982	3,771,000				
1983	4,108,000				
		12,192,000(d)	3,048,000(d)		
<u>1980-1983</u>		<u>(10,972,800)</u>	<u>(2,743,200)</u>	<u>65,552,000</u>	<u>60,144,000</u>

TABLE B-3
(continued)

/a/ Net equals 90 % of gross. Net new space is added at an increase factor of 90 %, since it is assumed that space equal to 10 % of a new building is demolished to make land available for the new replacement building.

/b/ Source: San Francisco Downtown Zoning Study, Working Paper No. 1, January 1966, Appendix Table 1, Part 1. For pre-1965, data include the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes one-third of retail-office mixed use. For post-1964, data include the entire city.

/c/ Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the cited January 1966 report. For post-1964, the entire area east of Franklin St. is included.

/d/ Four-year total and average.

SOURCE: Department of City Planning, July 18, 1984.

APPENDIX C: TRANSPORTATION

TABLE C-1: PASSENGER LEVELS OF SERVICE ON BUS TRANSIT

<u>Level of Service</u>	<u>Description</u>	<u>Passengers per Seat</u>
A	Level of Service A describes a condition of excellent passenger comfort. Passenger loadings are low with less than half the seats filled. There is little or no restriction on passenger maneuverability. Passenger loading times do not affect scheduled operation.	0.00-0.50
B	Level of Service B is in the range of passenger comfort with moderate passenger loadings. Passengers still have reasonable freedom of movement on the transit vehicle. Passenger loading times do not affect scheduled operations.	0.51-0.75
C	Level of Service C is still in the zone of passenger comfort, but loadings approach seated capacity and passenger maneuverability on the transit vehicle is beginning to be restricted. Relatively satisfactory operating schedules are still obtained as passenger loading times are not excessive.	0.76-1.00
D	Level of Service D approaches uncomfortable passenger conditions with tolerable numbers of standees. Passengers have restricted freedom to move about on the transit vehicle. Conditions can be tolerated for short periods of time. Passenger loadings begin to affect schedule adherence as the restricted freedom of movement for passengers requires longer loading times.	1.01-1.25
E	Level of Service E passenger loadings approach manufacturers' recommended maximums and passenger comfort is at low levels. Freedom to move about is substantially diminished. Passenger loading times increase as mobility of passengers on the transit vehicle decreases. Scheduled operation is difficult to maintain at this level. Bunching of buses tends to occur which can rapidly cause operations to deteriorate.	1.26-1.50
F	Level of Service F describes crush loadings. Passenger comfort and maneuverability is extremely poor. Crush loadings lead to deterioration of scheduled operations through substantially increased loading times.	1.51-1.60

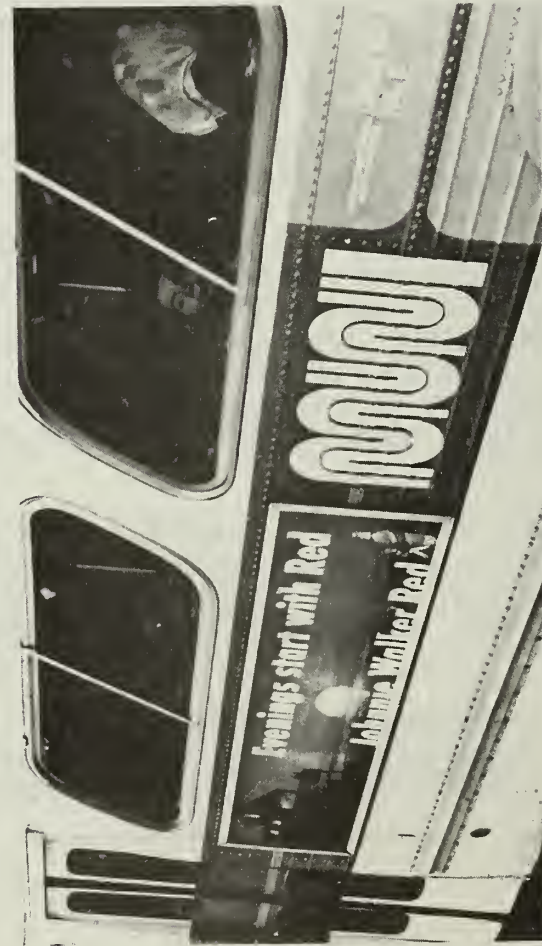
SOURCE: Environmental Science Associates, Inc. from information in the Interim Materials on Highway Capacity, Transportation Research Circular 212, pp. 73-113, Transportation Research Board, 1980.



K INCLESIDE - VAN NESS STATION
Wednesday, September 9, 1981 - 8:00 A.M. - Inbound



N JUDAH - VAN NESS STATION
Wednesday, September 16, 1981 - 5:00 P.M. Outbound



38 GEARY - VAN NESS AVE. AND O'FARRELL ST.
Wednesday, October 21, 1981 - 9:00 A.M. - Inbound



38 GEARY - VAN NESS AVE. AND GEARY BLVD.
Wednesday, October 21, 1981 - 4:20 P.M. - Outbound

FIGURE C-1:

PHOTOS OF PEAK MUNI LOADING CONDITIONS

SOURCE: ESA



M OCEAN VIEW - CIVIC CENTER STATION
Wednesday, September 9, 1981 - 8:20 A.M. - Inbound



L TARAVAL - VAN NESS STATION
Wednesday, September 16, 1981 - 4:50 P.M. - Outbound



14 MISSION - MISSION STREET AND SOUTH VAN NESS AVE.
Tuesday, September 29, 1981 - 5:45 P.M. - Outbound



N JUDAH - DUBOCE AND CHURCH
Wednesday, June 8, 1983 - 8:00 A.M. Inbound

FIGURE C-1 (CONTINUED):
PHOTOS OF PEAK MUNI LOADING CONDITIONS

SOURCE: ESA



30X MARINA EXPRESS - BAYSHORE AVE. AND ARIETA AVE.
Wednesday, October 7, 1981 - 8:00 A.M. - Inbound



J CHURCH - CHURCH ST. AND DUBOCE AVE.
Tuesday, September 29, 1981 - 9:00 A.M. - Inbound

PEDESTRIAN ANALYSIS

The pedestrian analysis has been conducted following methods developed by Pushkarev and Zupan in Urban Space for Pedestrians (MIT Press, 1975).

Table C-2 shows the relationship between pedestrian flow rates and the flow regimes (categories) used to describe levels of operation. Figure C-2 shows photographs of pedestrian conditions that correspond to the flow regimes.

TABLE C-2: PEDESTRIAN FLOW REGIMEN

<u>FLOW REGIME/a/</u>	<u>CHOICE</u>	<u>CONFLICTS</u>	<u>FLOW RATE (p/f/m)/b/</u>
Open	Free Selection	None	less than 0.5
Unimpeded	Some Selection	Minor	0.5 to 2.0
Impeded	Some Selection	High Indirect Interaction	2.1 to 6.0
Constrained	Some Restriction	Multiple	6.1 to 10.0
Crowded	Restricted	High Probability	10.1 to 14.0
<u>Design Limit - Upper Limit of Desirable Flow</u>			
Congested	All Reduced	Frequent	14.1 to 18.0
Jammed	Shuffle Only	Unavoidable	Not applicable/c/

/a/ Photographs of these conditions are shown in Figure C-2.

/b/ P/F/M = Pedestrians per foot of effective sidewalk width per minute.

/c/ For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

SOURCE: Urban Space for Pedestrians, MIT Press, 1975, Cambridge, MA.



The borderline between IMPEDED and UNIMPEDED FLOW, with about 130 sq ft (12 m^2) per person, or a flow rate of about 2 people per min per ft (6.5 per m) of walkway width. Individuals as well as couples visible in this view have a choice of speed and direction of movement. This rate of flow is recommended for design of outdoor walkways in office districts and other less dense parts of downtown areas.



The midpoint of the IMPEDED FLOW range, with about 75 sq ft (6.9 m^2) per person, or a flow rate of about 4 people per min per ft (13 per m) of walkway width. Physical conflicts are absent, but pedestrian navigation does require constant indirect interaction with others. This rate of flow is recommended as an upper limit for the design of outdoor walkways in shopping districts and other dense parts of downtown areas.



The uneven nature of UNIMPEDED FLOW. While the people walking in the plaza which is 17 ft (5.2 m) wide, compared to 23 ft (7 m) in the preceding picture have almost 130 sq ft (12 m^2) per person on the average, the space allocation for the eight individuals in the foreground is closer to 70 sq ft (6.4 m^2). Thus, indirect interaction with others is still quite frequent in the upper range of UNIMPEDED FLOW.



Lower range of UNIMPEDED movement, approaching OPEN FLOW. About 350 sq ft (32.2 m^2) per person, or a flow rate of less than 1 person per min per ft (3.3 per m) of walkway width. Complete freedom to select the speed and direction of movement; individuals behave quite independently of each other. For a design standard based solely on pedestrian density, this amount of space can be considered excessive.

FIGURE C-2:
PHOTOS OF PEDESTRIAN FLOW LEVELS

SOURCE: Pushkarev and Zupan

JAMMED FLOW. Space per pedestrian in this view is about 3.8 sq ft (0.35 m²). This is representative of the lower half of the speed-flow curve, where only shuffling movement is possible and even the extremely un-

comfortable maximum flow rate of 25 people per min per ft (82 per m) of walkway width cannot be attained due to lack of space. Photograph by Louis B. Schlivek.



The threshold of **CONGESTED FLOW**. The first eleven people in the view have about 16 sq ft (1.5 m²) per person, corresponding to a flow rate of about 15 people per min per ft (49 per m) of walkway width. The beginnings of congestion are evident in bodily conflicts affecting at least three of the walkers, and in blocked opportunities for walking at a normal pace.



The onset of **CROWDED FLOW**, with an average of about 24 sq ft (2.2 m²) per person, or a flow rate of about 10 people per min per ft (33 per m) of walkway width. Choice of speed is partially restricted, the probability of conflicts is fairly high, passing is difficult. Voluntary groups of two, of which two can be seen in the picture, are maintained, but cause interference. Note also some overflow into the vehicular roadway in the background.



The midpoint of the **CONSTRAINED FLOW** range, with about 30 sq ft (2.8 m²) per person, or a flow rate of about 8 people per min per ft (26 per m) of walkway width. The choice of speed is occasionally restricted, crossing and passing movements are possible, but with interference and with the likelihood of conflicts. The man in the dark suit seems to be able to cross in front of the two women in the foreground quite freely, but in the background near the curb people are having difficulty with passing maneuvers.

**FIGURE C-2 (CONTINUED):
PHOTOS OF PEDESTRIAN FLOW LEVELS**

SOURCE: Pushkarev and Zupan

INTERSECTION ANALYSIS

The capacity analysis of each intersection at which a turning movement count was made utilized the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity", Transportation Research Circular No. 212, Transportation Research Board, January 1980). The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service (see Table C-3). For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E.

TABLE C-3: VEHICULAR LEVELS OF SERVICE AT SIGNALIZED INTERSECTIONS

Level of Service	Description	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	less than 0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.01+

/a/ Capacity is defined as Level of Service E.

SOURCE: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering from Highway Capacity Manual, Highway Research Board, 1965

TABLE C-4: TRAFFIC LEVELS OF SERVICE FOR FREEWAYS

Level of Service	Description	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.	0.00-0.60
B	Level of Service B is in the higher speed range of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted.	0.61-0.70
C	Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the highervolumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained.	0.71-0.80
D	Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.81-0.90
E	Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds (typically about 30 to 35 mph) than in Level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.	0.91-1.00
F	Level of Service F describes forced flow operation at low speeds (less than 30 mph), in which the freeway acts as storage for queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00+

/a/ Capacity is defined as Level of Service E.

SOURCE: Environmental Science Associates, Inc. from information in the Highway Capacity Manual, Special Report 87, Highway Research Board, 1965.

APPENDIX D

AIR QUALITY

SAN FRANCISCO AIR POLLUTANT SUMMARY 1979-1983¹

Pollutant	Federal ² Standard	State ³ Standard	1979	1980	1981	1982	1983
<u>Carbon Monoxide (CO)</u>							
1-hour average (ppm) Highest hourly average No. of exceedances	35	20	20 0	10 0	8 0	-- 0	-- 0
8-hour average (ppm) Highest 8-hour average No. of exceedances	9	9	13.8 1	7.5 0	5.3 0	9 1	5.1 0
<u>Ozone (O₃)</u>							
1-hour average (ppm) Highest hourly average No. of exceedances	.124	.10	0.08 0	0.09 0	0.07 0	.08 0	.13 1
<u>Nitrogen Dioxide (NO₂)</u>							
1-hour average (ppm) Highest hourly average No. of exceedances	None	.25	0.16 4	0.17 0	0.11 0	.13 0	.13 0
<u>Sulphur Dioxide (SO₂)</u>							
24-hour average (ppm) Highest 24-hour average No. of exceedances	.14	.05	0.034 0	0.018 0	0.016 0	.012 0	.018 0
<u>Total Suspended Particulate (TSP)</u>							
24-hour average (ug/m ³) Highest 24-hour average No. of exceedances	260	100	117 1	173 6	103 1	106 3	117 4

APPENDIX D (continued)

SAN FRANCISCO AIR POLLUTANT SUMMARY 1979-1983¹

Pollutant	Federal ² Standard	State ³ Standard	1979	1980	1981	1982
Annual Geometric Mean ($\mu\text{g}/\text{m}^3$) ⁵	75	60				
Annual Geometric Mean			42.0	52.1	56.0	57.0
Annual Exceedances			No	No	No	No
<u>Lead</u>						
3-month Average (mg/m^3)	1.5	None				
Highest 3-month average			0.95	0.53	0.35	---
No. of exceedances			0	0	0	---
1-month Average (mg/m^3)	None	1.5	---	---	---	---
No. of exceedances	---	---	---	---	---	---

¹1979 data collected at 939 Ellis Street. 1980-83 data collected at 900 23rd Street.

²Federal standard is not to be exceeded more than once per year. Annual average standards are not to be exceeded.

³State standards are not to be equalled or exceeded. The State 1-hour average CO standard was reduced from 40 ppm in 1982.

⁴The federal standard is given in terms of Expected Annual Excesses which is based on a 3-year running average.

⁵The annual Geometric Mean is a single number which applies to an entire year of data. "No" indicates TSP concentrations did not exceed 60 ($\mu\text{g}/\text{m}^3$).

Note: ppm = parts per million
 $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 mg/m^3 = milligrams per cubic meter

Source: BAAMQD, Air Pollution in the Bay Area by Station and Contaminant, March issues, 1980-1984; and California Resources Board, California Air Quality Data, Annual Summaries, 1979-1982.

APPENDIX E: RESIDENCE PATTERNS AND HOUSING

This appendix describes the methodologies for estimating residence patterns for the project and for cumulative development in downtown San Francisco. There is one method for estimating residence patterns for the project; there are two methods for estimating residence patterns associated with cumulative development. The background on these latter two approaches is presented in Section V.A., Introduction to Cumulative Impact Analysis.

Estimating Residence Patterns for the Project

For the purposes of cumulative impact analysis, the residence patterns for the project are estimated for the year 2000. The assumption is that the project would have characteristics similar to the average characteristics for all similar buildings in the C-3 District in 2000.

The first step is to estimate employment in the project. The year 2000 employment densities developed in the Downtown Plan analysis for management/technical office space (267 gsf per employee) and retail space (350 gsf per employee) are applied to the net additional space in the project in each of these use categories./1/ (In some projects the net additional retail space may be a negative number.)

In the second step, the number of these workers who would live in San Francisco and other areas of the region are estimated using the year 2000 distribution of C-3 District management/technical office workers and retail workers by place of residence. The residential distribution for office workers in the project would be: San Francisco - 44 percent, east bay - 35 percent, peninsula - 11 percent, and north bay - 10 percent. For retail workers, the distribution would be: San Francisco - 75 percent, east bay - 12 percent, peninsula - 10 percent, north bay - 3 percent./2/ The total estimate of workers in the project who would live in each area of the region is the sum of the office and retail estimates in each area.

Estimating Residence Patterns for Cumulative Development

Two residence patterns forecasts are used in the cumulative impact analysis. The first is from the Downtown Plan analysis of C-3 District development and employment growth to the year 2000. The C-3 District forecasts presented in this project EIR Supplement are the result of the methodology and procedures used in the Downtown Plan analysis to forecast changes over time in the residential distribution of C-3 District workers. No new calculations were undertaken for the purposes of this Supplement. The second residence patterns forecast involved a set of calculations to establish both a 1984 base year estimate and future estimates for projects on the list of cumulative office development. These are described below.

Downtown Plan Approach

The residence patterns for all C-3 District employees in 2000 were forecast for the Downtown Plan EIR. These forecasts are summarized in the Supplemental EIR section on Residence Patterns and Housing (see Table⁹). The methodologies for forecasting C-3 District employment and residence patterns are described in Appendices H and I of the Downtown Plan EIR./3/ Table I.10 on p. I.38 of the Downtown Plan EIR shows the residence patterns percentages applied to employment in each land use (or business activity). The resultant distribution for all workers by place of residence is as follows: San Francisco - 50 percent, east bay - 29 percent, peninsula - 13 percent, and north bay - 8 percent.

List-Based Approach

The methodology for estimating residence patterns for workers associated with the list of cumulative office development in the downtown area is based on applying factors describing current conditions to the increment of office and retail space included in projects on the list. The factors and data describing current conditions for employment densities and the distribution of workers by place of residence are presented in the Department of City Planning document Transportation Guidelines for Environmental Impact Review: Transportation Impacts (hereinafter Transportation Guidelines), published in

September, 1983. The data in the Transportation Guidelines are based on analyses of the C-3 District Employer and Employee Surveys conducted for the Downtown Plan Draft EIR, and a similar survey conducted in the South of Market/Folsom area.

In the first step, an employment density factor is applied to the net addition of office and retail space in projects on the list. For office space the density factor is 276 gsf per employee; for retail space the density factor is 350 gsf per employee./4/

In the second step, projects in the South of Market/Folsom area (bounded by Folsom, Ninth, Berry, and the Embarcadero) are treated differently from projects elsewhere in the downtown area./5/ The residence patterns for all workers in the South of Market/Folsom projects are estimated according to the following percentage distribution: San Francisco - 44 percent, east bay - 27 percent, peninsula - 16 percent, and north bay - 13 percent./6/ The residence patterns for office workers in other projects on the list (in the C-3 District and elsewhere in the downtown area) are estimated according to the following percentage distribution: San Francisco - 49 percent, east bay - 32 percent, peninsula - 11 percent, and North Bay - 8 percent./7/ For retail workers in these non-South of Market/Folsom projects, the residence pattern distribution is as follows: San Francisco - 77 percent, east bay - 11 percent, peninsula - 10 percent, and north bay - 2 percent./8/ The sum of all workers in each place of residence is the estimate of the increase in downtown workers living in each area due to development of projects on the cumulative list.

This approach has a third step in order to estimate cumulative totals for the downtown workforce, comparable to the C-3 District 2000 forecasts. For residence patterns, the base year totals are the 1984 estimates as prepared for C-3 District employment for the Downtown Plan analysis, plus estimates for the other downtown areas. These latter estimates are based on order-of-magnitude employment estimates for the South of Market/Folsom area and all other downtown areas outside the C-3 District. For the 1984 base year residence patterns totals, the percentage distributions noted above (from the Transportation Guidelines) are applied to employment estimates for

the South of Market/Folsom area and other downtown areas, as appropriate. The sum of the 1984 base year totals of workers living in each area of the region and the estimates for each area developed from the list of projects represents the downtown workers residing in each area in the future, accounting only for build-out of the projects on the list. Other changes both in land use and in the intensity of activity in space in the downtown area could occur over this time period. If these changes were included in the analysis, the employment estimates and the estimates of workers residing in each area of the region would be larger than shown in the text.

NOTES - Appendix E

/1/ Downtown Plan EIR, p.IV.C.45 and note 30 on p.IV.C.61; also see Table IV.C.2 on p. IV.C.6.

/2/ Ibid., p. I.38.

/3/ For a description of the employment forecast methodology, see the Downtown Plan EIR, Appendix H, pp. H.6-H.16. For a description of the residence patterns forecast methodology, see the Downtown Plan EIR, Appendix I, pp.I.8-I.30.

/4/ San Francisco Department of City Planning, Transportation Guidelines for Environmental Impact Review: Transportation Impacts, September, 1983, pp.14 and 17.

/5/ See Transportation Guidelines, pp. 28 and 30 for maps of the Cumulative Development Study Area and the South of Market/Folsom area.

/6/ Ibid., p. 21.

/7/ Ibid., pp. 11-12.

/8/ Ibid., p. 17.

RECORDING REQUESTED BY:

RECORDED AT REQUEST OF

AND WHEN RECORDED MAIL TO:

0458519

0637 IMAGE 1033

LINCOLN PROPERTY COMPANY
220 Sansome Street, 10th Floor
San Francisco, California 94104

101 FEB -2 PM 4:41

Space Above This Line For Recorder's Use

6/1
CP

RELEASE OF SPECIAL RESTRICTIONS UNDER

THE CITY PLANNING CODE

Notice is given that the Notice of Special Restrictions recorded on the land records by Lincoln/Mission Spear Associates Limited on January 28, 1982, as document No. D168283 in Book D347 on Page 370 of the Official Records is hereby RELEASED as it pertains to the property situate in the City and County of San Francisco, State of California, more particularly described as follows:

BEING Assessor's Block 3717, Lot 1
Commonly known as 100 Spear Street and
101 Mission Street;

Said Notice of Special Restrictions is no longer necessary for the reason that the housing condition referred to therein has been satisfied.

Dated: 1/31/84 at San Francisco, California.

DEPARTMENT OF CITY PLANNING

By: [Signature]
ROBERT W. PASSMORE
Assistant Director of Planning
Implementation

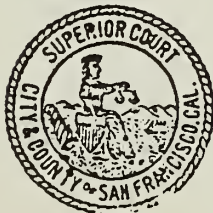
Dated: 1/31/84 at San Francisco, California.

[Signature]
WITNESS

STATE OF CALIFORNIA)
CITY AND COUNTY OF SAN FRANCISCO) ss

On the 2 day of Feb, 1984, personally appeared before me Robert W. Feldman, known to me to be the witness who subscribed his/her name to the within instrument, and acknowledged to me that Robert W. Passmore, known to him/her to be the Assistant Director of Planning-Implementation, subscribed the within instrument and that Robert W. Passmore executed the same on behalf of the City and County of San Francisco and that Robert W. Feldman subscribed his/her name thereto as a witness.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of my office, the day and year last above written.



COUNTY CLERK OF THE CITY AND COUNTY
OF SAN FRANCISCO

By: [Signature]
DEPUTY COUNTY CLERK

EIP

1030001

1030001

August 17, 1984

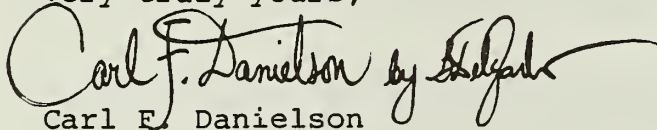
Ms. Susan McAdam
ENVIRONMENTAL IMPACT PLANNING
319 Eleventh Street
San Francisco, California 94103

Dear Susan:

Enclosed is a summary of how we have satisfied our 180 housing credit requirements for our 101 Mission, which is now known as 100 Spear.

Thank you for your assistance.

Very truly yours,


Carl F. Danielson

CFD/bd

encl:

cc: B. Thompson, Esq.
Pettit & Martin

file: EIR Supplement

Housing Credits
100 Spear - 180 housing credits

Lincoln Mission Spear has satisfied its housing credits through a Mortgage Buy-Down Program between Lincoln and Paul C. Peterson Building Developer for the Silverview Terraces Housing development.

Under the terms of the agreement, Lincoln has committed up to \$500,000 to buy-down the mortgage rates of at least 60 Silverview Terrace Townhouses. In order to qualify for a loan, the household's income must meet the following guideline -- moderate income household's income, adjusted for size, must be between 80% and 120% of the San Francisco SMSA median income. 57 two bedroom townhouses and 3 three bedroom townhouses will be designated as "affordable units". All such "affordable units" will be conveyed by a deed which restricts the future resale of the units to moderate income purchasers as herein defined for a twenty year period.

To qualify for approval of housing credits under the Office/Housing Production Program (OHPP), Lincoln and Peterson had to satisfy the requirements set forth above with respect to the provisions of "affordable housing". Further, the housing plan, described above had to meet the requirements set forth in Part I B (4) and Part I C of the OHPP Guidelines.

In the event Peterson and Lincoln fail to sell the 60 units to qualified applicants the unused portion of the funds will be turned over to the appropriate City agency for use in housing as final satisfaction for the approval of the above 180 credits.

APPENDIX F

August 27, 1981
101 Mission Street
81.419D

SAN FRANCISCO

CITY PLANNING COMMISSION

RESOLUTION NO. 9123

WHEREAS, The City Planning Commission on August 27, 1981 heard Application No. 81.419D for Discretionary Review of Building Permit Application No. 7912639 for the proposed 101 Mission Street Office Building, a proposed major commercial structure in the C-3-0 (Downtown Office) district, to determine the appropriateness of the proposed use, overall project density and character, on the property described as follows:

101 MISSION STREET, the southwest corner of Spear and Mission Streets,
Lot 1 in Assessor's Block 3717;

WHEREAS, The City Planning Commission on January 17, 1980 approved Resolution No. 8474 establishing a policy whereby any building permit application in the downtown area would be considered by the Commission under its powers of discretionary review, and that the topics of review would include the protection and enhancement of the pedestrian environment, preservation of architecturally and historically significant buildings, adequate and appropriate means of transportation, energy conservation, relationship to environs, and effect on views from public areas and on the skyline; and

WHEREAS, The proposed project would be the development of a 21-story high rise office building containing approximately 215,000 square feet within the downtown commercial core area, being well served by several modes of public transportation, including BART and MUNI; and

WHEREAS, The City Planning Commission acknowledges that before acting on the project, it has reviewed, considered and approved the information contained in the Final Environmental Impact Report, dated August 27, 1981, concerning EE79.236, 101 Mission Street Office Building, San Francisco, having found said report to be adequate, accurate and objective, and have CERTIFIED THE COMPLETION of said Report in compliance with the California Environmental Quality Act and the State EIR Guidelines; and

WHEREAS, The proposed project, as indicated by the Final Environmental Impact Report will have a significant effect on the environment in that the project will contribute to the cumulative increase in transit ridership and pedestrian and vehicular traffic, and air quality and housing impacts produced by development approved and under construction in the downtown area; and

WHEREAS, Conditions can be established in authorizing the proposed project that substantially mitigate such environmental impacts; and

WHEREAS, These conditions call for expansion of the housing supply and implementation of mitigation measures described in the EIR for transportation, which also mitigate air quality impacts;

THEREFORE BE IT RESOLVED, That the City Planning Commission finds that the following measures will mitigate the significant effects on air quality, traffic and pedestrian use of adjoining streets, on transit use and transit demand in the downtown area, and on housing demand:

Transportation and Pedestrian Movement

1. The project sponsor will help expand transportation services by agreeing to contribute funds to augment transportation service, in an amount proportionate to the demand created by the project, through an equitable funding mechanism to be developed by the City.
2. The project sponsor will retain a transportation broker responsible for coordinating programs designed to encourage transit use, ridesharing, carpool/vanpool systems.
3. The project sponsors will conduct a transportation survey in accordance with Departmental guidelines.
4. The project sponsors will provide 2 loading spaces for service vehicles.
5. The project sponsor will cooperate in meeting both long and short term parking demand generated by the project.

Housing

1. The project sponsor agrees to cause the construction and/or rehabilitation of 190 housing units in San Francisco.

BE IT FURTHER RESOLVED, That the City Planning Commission finds that measures or alternatives which are described in the Final EIR and which would reduce or avoid impacts identified to be significant and which are not included as part of the approved project are either within the jurisdiction of another city agency or are infeasible due to economic and other considerations described in the FEIR; and

BE IT FURTHER RESOLVED, That the City Planning Commission finds that the following positive aspects of the project would override any significant impacts not mitigated:

- a. improvement of downtown land with a new office structure;
- b. creation of approximately 260 person-years of construction employment;

- c. accommodation of approximately 850 permanent jobs;
- d. further strengthening of the C-3-0 district as a compact center for financial, technical, professional, and administrative services;

and

BE IT FURTHER RESOLVED, That Building Permit Application No. 7912639 is hereby APPROVED for a building not to exceed an F.A.R. of 17 to 1, and subject to the following conditions:

General Mitigation Measures

- 1. "Mitigation Measures To Be Included In The Project", as outlined in the final EIR, EE79.236, shall be conditions of this Resolution. If said measures are less restrictive than the following conditions, the more restrictive and protective control shall govern.

Design and Cultural Resources

- 1. The final plans shall meet the standards of the Planning Code and be in general conformity with the plans accepted by the City Planning Commission on August 27, 1981, said plans on file with the Department of City Planning and marked as EXHIBIT "A" 101 Mission Street.
- 2. Decisions on final materials, glazing, color, texture and detailing are subject to staff review and approval.

Transportation

- 1. In recognition of the need for expanded transportation services to meet the peak demand generated by cumulative commercial development in the downtown area, the project sponsor shall contribute funds for maintaining and augmenting transportation service, in an amount proportionate to the demand created by the project, as provided by Board of Supervisors Ordinance Number 224-81 or any subsequent equitable funding mechanism developed by the City.
- 2. The project sponsor shall retain a transportation broker responsible for coordinating, implementing and monitoring the programs among tenants and employees to encourage transit use and ridesharing, including but not limited to the following: on-site sale of BART tickets and Muni passes and employer subsidized transit passes, establishment of an employee carpool/vanpool system in cooperation with RIDES for Bay Area Commuters or other such enterprises.

3. Within a year after completion of the project, the project sponsor shall conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation, trip distribution, and modal split pattern of project occupants, and actual pick-up and drop-off areas for carpoolers and vanpoolers. The results of this survey shall be made available to the Department of City Planning. Alternatively, at the request of the Department of City Planning, the project sponsor will provide an in lieu contribution for an overall survey of the downtown area to be conducted by the City.
4. Project sponsors agree to provide a minimum of two on-site loading service vehicle space.
5. The project sponsor shall: (i) participate with other project sponsors and/or the San Francisco Parking Authority in undertaking studies of the feasibility of constructing an intercept commuter parking facility in a location appropriate for such facility to meet the unmet demand for parking for those trips generated by the project which cannot reasonably be made by transit and (ii) participate with other project sponsors and/or the Municipal Railway in studies of the feasibility of the establishment of a shuttle system serving the project site and the parking facility.
6. The project sponsors agree that, in consultation with the Municipal Railway, eyebolts or provisions for direct attachment of eyebolts for Muni trolley wires will be installed on the proposed building wherever necessary or agreed to waive the right to refuse the attachment of eyebolts to the proposed building if such attachment is done at City expense.
7. Project sponsor agrees to provide a minimum of 10 secure spaces for bicycles and/or mopeds within the project.

Housing

1. In order to help meet the housing demand generated by this project, project sponsors and/or successive project owners shall cause the construction and/or rehabilitation of 180 housing units in San Francisco. Within two years of the date of this action, project sponsor and/or successive owners shall present plans and/or a program for meeting the housing mitigation. Construction and/or rehabilitation of required housing shall be completed within three years following issuance of a Temporary Certificate of Occupancy. This condition shall be recorded prior to the release of permits by the Department of City Planning.

Rehabilitation within the context of this condition means the return to the housing market of units that have been vacant for reasons other than making them eligible for satisfying this condition for at least one year as of the date of this Resolution.

Project sponsors shall report back to the City Planning Commission periodically at 6 month intervals on their efforts to construct or to rehabilitate units.

2. In meeting its housing requirements, project sponsor shall comply with any City policies and guidelines, which may be adopted prior to the issuance of a Temporary Certificate of Occupancy, for providing low and moderate income housing.

Energy

1. One year after occupancy of the structure, actual energy consumption, converted to thousands of British Thermal Units, from Pacific Gas and Electric monthly billings, shall be reported to the Department of City Planning. If the consumption exceeds applicable state standards in effect at the time of issuance of the Building Permit, a PG&E or other certified energy audit shall be performed, and those recommended energy conservation measures which have a 3-year or less payback shall be implemented.
2. Project sponsor shall consider all appropriate energy conservation measures in building design and operations. Prior to issuance of the building permit, the sponsor shall submit to the Department of City Planning a report containing its assessment of the cost effectiveness of the utilization in the project of the various measures outlined in the attached checklist and its reasons for rejecting those measures not employed. Measures to be considered:
 - (1) passive solar energy design;
 - (2) thermal buffers along north end of building to reduce interior heat loss;
 - (3) increase in natural interior illumination (daylighting) through atriums, skylights, etc;
 - (4) exterior shading devices, such as horizontal overhangs on south facing windows -- these devices may also increase air circulation;
 - (5) heat reflective glass for all windows except north;
 - (6) economizer cycle (which increases use of outside air) in air conditioning systems;
 - (7) alternates to air conditioning, including natural ventilation;
 - (8) computer monitoring systems for HVAC, lighting;
 - (9) alternate energy systems for hot water;
 - (10) heat recovery systems.

General

1. The authorizations and rights vested by virtue of this action shall be deemed void and cancelled, if within eighteen months of this approval, valid site permits have not been secured from the Department of City Planning, and construction does not commence within three years of this action.

Preservation/Archeology

1. Should evidence of historic or prehistoric artifacts be uncovered at the site during construction, the project sponsor shall be responsible for, and require the following: (1) that the contractor notify the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board; (2) that the contractor suspend construction in the area of the discovery for a maximum of four weeks to permit review of the find and, if appropriate, retrieval of artifacts; (3) that the project sponsor pay for an archeologist or historian acceptable to the Environmental Review Officer to help review the find and identify feasible measures, if any, to preserve or recover artifacts; and (4) if feasible mitigation measures are identified, that they will be implemented.

I hereby certify that the foregoing Resolution was ADOPTED by the City Planning Commission at its regular meeting of August 27, 1981.

Lee Woods, Jr.
Secretary

AYES: Commissioners Bierman, Karasick, Klein, Matsumura, Nakashima, Rosenblatt
Salazar

NOES: None

ABSENT: None

PASSED: August 27, 1981

● APPENDIX G

Comparison of Cumulative Impacts: Final EIR and Supplemental EIR

Cumulative analysis in the project's Final EIR was based upon approximately eight million square feet of office space approved or under construction as of October 1980. Transportation impacts were assessed using Guidelines for Environmental Evaluation -Transportation Impacts, prepared by the San Francisco Department of City Planning, July 1980 (revised October 1980). Muni transit impacts were based on estimates of patronage and load factors most likely to occur in 1983.

Cumulative analysis in this Supplemental EIR is based upon approximately 19 million square feet of net new downtown office space. This includes projects as of March 10, 1984 that are under formal review by the Department of City Planning, approved or under construction. The process used to develop the cumulative list and the list of projects appears in Appendix B, pages A-6 through A-15. This list contains the most recent cumulative development projections prepared by the Department.

For convenience this appendix provides, where possible, comparison of the results reached in the Supplemental EIRs with similar results reached in the Final EIR. This comparison is included for results which have been reported both in tabular form and in text. Explanation is also provided where, due to changes in methodology and/or timeframe, it is not possible to compare the tabular or textual results of the DSEIR with those included in the FEIR.

The following tables, included in the Supplemental EIR, contain information on results of the impact analysis which is comparable to results identified in the FEIR:

Table 4: Peak Pedestrian Volumes and Flow Regimen

	1984				1984 + CUMULATIVE LIST				2000				FEIR 1983 PROJECTED PED. FLOWS				
	<u>p/f/m</u>		<u>Flow Regimen</u>		<u>p/f/m</u>		<u>Flow Regimen</u>		<u>p/f/m</u>		<u>Flow Regimen</u>		<u>p/f/m</u>	<u>Flow Regimen*</u>			
<u>NOON PEAK</u>																	
Mission Sidewalk (north side)	2.6		Impeded		3.1		Impeded		7%		3.6		Impeded		2.6		Impeded
Mission Sidewalk (south side)	1.2		Unimpeded		1.5		Unimpeded		13%		1.8		Unimpeded		1.3		Unimpeded
Spear Sidewalk (northwest corner)	1.1		Unimpeded		1.3		Unimpeded		8%		1.5		Unimpeded		1.1		Unimpeded
Mission Crosswalk	1.3		Unimpeded		1.6		Unimpeded		13%		1.9		Unimpeded		1.4		Unimpeded
<u>P.M. PEAK</u>																	
Mission Sidewalk (south side)	0.3		Open		0.4		Open		25%		0.5		Unimpeded		0.4		Open
Spear Sidewalk (southwest corner)	1.4		Unimpeded		2.0		Unimpeded		20%		2.2		Impeded		1.7		Unimpeded
Mission Crosswalk	1.1		Unimpeded		1.9		Unimpeded		37%		2.1		Impeded		1.7		Unimpeded
Spear Crosswalk	0.4		Open		0.6		Unimpeded		33%		0.7		Unimpeded		0.6		Unimpeded

* Flow regimen was not reported in the FEIR but are provided here for comparison purposes.

In Table 4, the projections included in the FEIR for 1983, are comparable to the 1984 + Cumulative List projections from the SEIR since both suggest a full buildout of the respective cumulative lists. The SEIR predicts equivalent or greater pedestrian flows at both the noon and p.m. peak hours, but in no case is the increase enough to degrade the projected flow regimen. In other words, results presented in the two documents are relatively similar where they cover similar locations.

Table 6: Projected Peak-Hour Intersection Volume-to-Capacity Ratios (V/C) and Levels of Service (LOS)

SEIR Intersection	1984		DOWNTOWN PLAN 2000		1984 + CUMULATIVE LIST	
	V/C	LOS	V/C	LOS	V/C	LOS
Mission & Beale Sts.	0.92	E	1.05	F	1.10	F

FEIR	Existing (1981)		Service Level in 1983 without 101 Mission	
Mission/Beale (p.m. peak)	C		D/E	

The FEIR stated that there would be no further degradation in the Mission/Beale intersection (or any other intersections) with the 101 Mission project.

For Table 6, only one intersection is comparable since a different set of intersections were analyzed in the FEIR and the SEIR. The locations nearest the project were analyzed in the FEIR because they were expected to be the intersections with the highest concentration of project-related traffic. However, in many cases, those intersections fail to give a clear picture of the cumulative traffic impacts, whereas the intersections near freeway ramps are the sites of the highest concentration of cumulative p.m. peak traffic. Freeway-related intersections have thus been used for cumulative traffic analyses for San Francisco EIRs for several years. The freeway ramps most likely to include some measurable amount of project-related traffic were chosen for cumulative analyses in this Supplemental EIR. For the Mission/Beale intersection, the SEIR predicted greater impacts, showing the intersection degrading to a level of service "F", as compared to the FEIR, which showed the intersection degrading to a level of service "D/E". This further degrading of the level of service at the intersection could be attributed to the increased cumulative development identified in both the Cumulative List and the Downtown Plan EIR forecast.

Table 7: Projected Daily Pollutant Emissions

Pollutant	SEIR			FEIR	
	Project	Bay Area		Project	Bay Area
	1990	1990	2000	1983	1983
Carbon Monoxide	0.96	1,952	1,883	0.64	1,500
Hydrocarbons	0.08	428	428	0.06	950
Nitrogen Oxides	.010	558	610	0.07	800
Sulfur Oxides	.001	194	233	N/A	N/A
Particulates	.014	562	649	N/A	N/A

N/A - Not analyzed in the FEIR.

In the above case the comparable results are the projections for the Bay Area in 1983 (FEIR) and 1990 (SEIR). The SEIR projects increased carbon monoxide levels and decreased levels of hydrocarbons and nitrogen oxides. Projected concentrations of sulfur oxides and particulates cannot be compared since the FEIR did not analyze potential impacts on these pollutants.

Noncomparable information

The following tables, included in the SEIR, provide information that is not comparable to information provided, if any, in the FEIR, due to changes and improvements made in the methodology used to analyze impacts. In addition, some tables provide base data that cannot be compared to FEIR data because new, updated, baseline information was obtained after certification of the FEIR; this new base data was used for both analysis methods in this SEIR in order to provide the most up-to-date cumulative analyses.

Table 1: Projected Outbound Travel Demand By Mode From The Project (person trip ends)

This table provides base data generated by trip generation and modal split rates applied to the project. FEIR Table 6 provides similar trip generation information. However, it is not comparable to SEIR Table 1 because the model split used in the SEIR has been refined and improved to include more categories than were used in the FEIR. In addition, it was not possible to separate travel coming into the building from trips leaving the building in the method that was used to project travel for the FEIR; the SEIR covers outbound trips only, as those are the trips contributing to the cumulative p.m. peak transportation impacts.

Table 2:

Comparison of List Method and Economic Forecast Method - Outbound P.M. Peak-Hour Cumulative Travel Demand For The C-3 District (person trip ends)

This table provides background information on the number of trips on each transit and transportation mode generated by cumulative downtown development. The table is not included in this comparative analysis since it contains base data rather than projections of the project's contribution to cumulative development. The information provided is an intermediate step in the cumulative transportation analysis and thus is not key to a comparison of the ultimate impacts disclosed to the Commission in the FEIR as compared to the SEIR. Comparable information is not found in the FEIR because Table 2 in the SEIR shows travel demand from the C-3 District, based on survey information obtained for that part of the Downtown in 1982, which was not available when the cumulative analysis was prepared for the FEIR in 1979-80. As there is no way to separate the travel from C-3 district projects on the FEIR cumulative list from the total cumulative travel assumed in the FEIR, no tabular comparison of Table 2 is included in this analysis.

Table 3: Outbound Regional Transit Demand and Level of Service

This table provides information about changes in level of service on transit carriers due to cumulative development. No comparison with the FEIR is included here since the FEIR did not provide similar information for Muni corridors or other carriers. The FEIR discussion of the impacts on Muni levels of service was done on a line-by-line basis for downtown serving lines, a

method which is no longer used and is not comparable to the data included in the SEIR. A corridor analysis method was adopted for assessment of impacts on Muni about 1-1/2 years ago as it was determined that it was somewhat misleading to assign transit trips rather arbitrarily to one bus line rather than another traveling in the same corridor (e.g., from downtown to the Richmond District) when it is known that travelers will make daily decisions on which line to use based on a variety of factors and that Muni also shifts facilities to accommodate changing demands in the main corridors. Survey and other data provide enough information to statistically support assigning riders by general area of residence (northeast, southwest areas of the City), but do not support as precise an assignment as is implied when a line-by-line analysis method is used.

Table 5: Outbound Regional Auto Demand

This table provides information on the project contribution to future demand on the Regional Auto Corridors, a type of analysis which was not part of the methodology used in the transportation analysis included in the FEIR, and thus no comparison is possible.

Table 8: Projected Worst-Case Curbside Carbon Monoxide Concentrations

It is not possible to compare the results of this table due to the fact that different locations were measured in the SEIR as compared to the FEIR. There are two reasons for the changes in locations measured -- first, a shift to measuring intersections rather than streets in the middle of blocks, and second, use of intersections showing larger cumulative impacts. In the FEIR, locations along Beale, Howard and Spear Streets were measured for one-and eight-hour CO concentrations. In the SEIR, the intersections of Mission and Beale, Clay and Battery, and First and Harrison were measured for the same thing. Since intersections carry the traffic load of two streets, the CO concentrations along an individual street will invariably be lower than those at an intersection of that street with another. As described above, the traffic analysis in the SEIR studied intersections that would show the highest concentrations of cumulative impacts, including the project. These intersections were then used of the curbside CO analyses as well, in order to show the impacts of the greatest amount of traffic where a measurable portion of the project-related traffic could be found.

Table 9: Regional Perspective on Residence Patterns

Information included in this table was not available at the time of the FEIR and thus not available for comparison purposes.

Comparable Conclusions in Text

In the 101 Mission FEIR and DSEIR, conclusions have been reached which are not reported in tabular form. In order to provide the fullest comparison of results of the cumulative analyses in the FEIR and SEIR, the following table summarizes the textual conclusions on cumulative impacts issues that were not included in tables in the two documents.

TABLE G-1
COMPARISON OF TEXTUAL CONCLUSIONS ON CUMULATIVE ISSUES
BETWEEN 101 MISSION FEIR AND SEIR

101 Mission FEIR

Transportation

"The additional peak hour patronage (Muni) due to the proposed project was added to the 1983 patronage projections on a proportional basis... the project would increase the 1983 load factors by not more than 1%."

"...the quality of pedestrian flow would remain unchanged from the existing characteristics. However, the addition of other pedestrian activity due to the 150 Spear Street project and proposed development in the area could cause pedestrian flow conditions to degrade to a "constrained" condition."

Housing

Approximately 40% (347 employees) would be expected to live in San Francisco, the balance 60%, or 521 employees, would commute to the City."

101 Mission SEIR

"The project travel would represent about 0.3% of the total travel on transit in the 1984-plus-the-Cumulative-List condition."

"Under the list-based analysis, conditions on the Main St. and Howard St. sidewalks and crosswalks would remain unchanged from the current ranges of Impeded and Unimpeded during the noon peak with the exception that the Main Street crosswalk would shift from Open to Unimpeded. During the p.m. peak the Main St. sidewalk, both north and south of the project, would shift from Unimpeded to Impeded."

"Sidewalk operations in the year 2000 would shift from Unimpeded to Impeded... the Main St. sidewalk south of the project and the Main St. crosswalk would shift from an Open to Unimpeded condition during the noon peak."

"The percentage (C-3 district jobs held by San Franciscans) would decline from 55.5 percent in 1984 to 50.2 percent in 2000. Those changes would be the result of cumulative development and employment growth in the C-3 district between 1984 and 2000."*

*The Downtown Plan EIR used ABAG Forecasts of residence patterns in the year 2000. Thus, this analysis shows that residence patterns are not drastically altered by any one project.



